

# Constructing a Neural-Web of Personal Connections: Introducing the Head-to-Toe Method of Associations for Vocabulary Acquisition

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## I. Introduction



"Words, words, words."

-Hamlet (Act II, Scene II)

There is an eloquent magic about words that continually echoes in the human spirit, much like Hamlet's response to Lord Polonius when he asks Hamlet, "What do you read, my lord?" and Hamlet answers, "Words, words, words." Yes, words, words, words! These lexical creatures— although devoid of blood, flesh, and bones—live inside us and are some of the most powerful, necessary, and influential elements that make us who and what we are. They function almost like organs—but instead of being physiological in nature, they are spiritual, emotional, and help construct our cognitive framework of language and the world. Lexical items—words, phrases, idioms, and collocations—are of colossal significance for all those who desire to communicate and share their inner thoughts and feelings with those near and far. Words, without doubt, are of paramount importance.

And, for our English language learners (ELLs), English lexical items are also crucial; ELLs hunger for words in order to survive in both their academic and non-academic environments. But how can they learn the optimal amount of vocabulary that they need to function successfully and efficiently in their English-using host culture?

This series will attempt to answer the above question. In this installment, I will first discuss the ELLs' lexical needs for academic success in terms of the amount of vocabulary that is necessary to work within their respective discipline; second, I will look at the general issues ELLs face in attempting to acquire vocabulary; and third, I will offer the ideas behind a new method that I'm developing called the *Head-to-Toe Method of Associations for Vocabulary Acquisition* (hereafter referred to as the Head-to-Toe Method).

In this first article, I will briefly highlight the general concepts of the method, and then, in the articles that follow, I will go into detail about its underlying principles that are based on discoveries and research in neuroscience (e.g., embodied cognition, synesthesia, and mirror neurons) and show how I use them in my English language classes. This series will also include pieces on various creative assignments based on the Head-to-Toe components and student reflections on the benefits of the method. I will conclude by highlighting data from vocabulary quizzes that my students took while using the Head-to-Toe Method. These quiz results show significant long-term retention of the vocabulary studied and offer a solution to a number of problems such as the *Ebbinghaus curse*, which we will address below.

#### II. Initial Issues: The Ebbinghaus Curse and Student Needs



We learn and we forget. But how much do we forget? The answer to this can be troubling. Although the work of Hermann Ebbinghaus dates back to 1885, it is still highly pertinent to us in 2017 (Jensen, 2008; Medina, 2009; Sousa, 2011). Ebbinghaus discovered that the human brain can forget up to 90 percent of what it learns within 30 days; and, that the majority of the new information is forgotten shortly after the first day of encoding the material (Ebbinghaus, 1885/1913). This is what I call the Ebbinghaus curse.

Our ELLs learn vocabulary in our English language classes, in their college/university classes (once they have been admitted to a course of study), and hopefully from their friends and classmates in the college/university. But, how much of it is retained? Furthermore, in terms of the typical Intensive English Program (IEP) classes, and especially ELL classes for university credit, instructors are limited as to the amount of time they can devote to vocabulary instruction. So, not only is there an issue with retention, but there is also a concern about the amount of time that can be allotted for instruction.

Francis and Kucera (1982) estimated that ELLs need about 5,000 English words to establish a good working knowledge of written English. This, however, ushers in a number of problematic issues. Currently, there is no list that includes the 5,000 most-needed lexical items for ELLs who are attending American institutions of higher learning. Moreover, "[w]hat each student needs depends on their level of study and what their field of study is" (Randolph, 2016, p. 1).

Our ELLs also need to know a vast number of collocations, phrases, and idioms (McPherron & Randolph, 2014). According to Brenner (2011), the English language can boast of more than 10,000 idioms. While the typical ELL will not encounter all of these during his/her studies, they will be exposed to a great number of idioms in their academic lectures and conversations. Liu (2008), in his work on English idioms, has shown that native speakers of English use about three to four idioms per minute in daily conversation. Kerbel and Grunwell (1997) found that idioms are prominent even in primary school. Their findings show that "[o]ne-thousand-and-twenty-eight instances of idiomatic usage were recorded in 10 hours of language and teaching" (p. 117).

In my own informal research, I've observed a number of university lectures, spanning from religious studies and philosophy to anthropology and English literature. I found that the lecturers used an average of one idiom per 15 to 20 seconds. The point here, of course, is that English Language Teachers (ELTs) need to teach not only single-word lexical items, but also focus on collocations, phrases, and idioms.

## **III. Common Problems with Vocabulary Instruction**



#### **Time Devoted to Explicit Instruction**

I agree with Folse's claim that "[t]eachers need to explicitly teach as much vocabulary as reasonably feasible" (2004, p. 99). However, one of the major problems for our ELLs is that they do not receive enough explicit instruction. I do not want to lay the blame on one particular movement, but I believe the Krashen philosophy of acquiring vocabulary primarily through reading has been detrimental to both our students and the profession. Can an ELL really pick up vocabulary solely through reading-osmosis? What if their level isn't advanced enough to understand the importance of particular lexical items? Or, what if the learner isn't cognizant enough to pick up on reoccurring terms? If an ELL reads an article, picks up a certain number of new terms but never goes back to review or use them, then how will he or she ever acquire those terms and learn the various aspects of their use? And, given the Ebbinghaus curse, 90 percent of those lexical items would be forgotten unless the student used certain methods to retain them. I think reading to acquire vocabulary is one approach; but, it is not the only one. I believe that this should always be kept in mind.

Explicit instruction is necessary; however, it is more often the exception rather than the rule. And, even if vocabulary terms are explicitly taught, they are seldom reviewed, and consequently students forget them and feel frustrated as a result. In short, there needs to be explicit instruction and a conscious attempt to review the terms through subsequent activities.

The lack of explicit vocabulary is by no means limited to the classroom, but rather, it runs far deeper into the fundamental framework of organized ELL education—the Intensive English Programs themselves! Oddly enough, very few American ESL programs offer courses or seminars in their curricula that are devoted to explicit instruction of vocabulary acquisition and usage. I have taught at six ESL institutes in the U.S., and only one offered a special class in vocabulary. This was solely because I argued for it on behalf of my students, and I was fortunate to have a director who saw the value of the class. I should mention that this course was initially categorized as an optional class, but was later written into the curriculum as a required course.

In order for our students to learn vocabulary and help them master its use in different situations, ESL programs across the country must reconsider the value of explicit instruction and think about how to implement more teacher-trainer programs and student-instruction methods related to vocabulary acquisition. My hope is that this series on my method will offer both teachers and program administrators ideas on how to teach vocabulary at a new level, one that is effective and enjoyable for the teachers, and exciting and inspiring for their students.

## Problems with Current Vocabulary Pedagogy

Neither time nor space will allow me to discuss all the problematic issues of vocabulary instruction; and, what works for one student might not necessarily work for another. That said, I would like to focus on the activities that my students have categorized as the least helpful in their quest to acquire vocabulary.

I often ask my students how they have studied vocabulary in the past and what activities were useful and which ones were not. Year after year, their answers are almost identical to the year before. On the one hand, my students almost always claim that they know how important vocabulary is in their lives, and yet, on the other hand, they are not overly excited about how it's taught. The students do like lessons that help facilitate and elicit original example sentences and recycle the terms so that they can transfer them to their long-term memory. For the most part, though, they claim studying vocabulary is "boring," "a waste of time," and "uninspiring."

The top five least favorite methods of learning vocabulary are (1) rote memorization without any context or use of the terms; (e.g., being asked to memorize word lists and then take quizzes on them); (2) fill-in-the-blank exercises; (3) matching activities; (4) translating definitions from one language to another; and (5) multiple-choice exercises. While all of these have their benefits, it might be best to either use them sparingly or vary them from time to time. It is interesting to note that my students claim that these exercises are used more for the instructor's

sake to save time on his or her grading than having an impact on the students' retention of the terms.

Another challenge my students face while learning vocabulary is the abstract nature of the terms; they claim that there is a great abyss between their understanding of a term and its actual meaning. That is, there is a significant "mental distance" between their cognitive grasp and the lexical items. They wish to somehow make the terms more tangible, more real. They want to feel the language and not just memorize the terms. A good example of a very abstract lexical item is "come up with." How can an abstract term like this be taught so that the students can internalize it?

The above point of making abstract terms concrete or familiar is the central feature of my Head-to-Toe Method. The main reason why I think the method works is that, as we shall see, the majority of what the students use to learn the lexical items is elicited from the students' own personal histories and private cognitive domain. Let us now take a brief look at the general idea of the Head-to-Toe Method.

## IV. Introducing the Head-to-Toe Method of Associations for Vocabulary Acquisition



A working definition of my method can best be understood as

a flexible and creative method based on establishing as many neural pathway connections as possible during the encoding process to facilitate and strengthen the language learners' long-term retention of English lexical items. These connections are also reinforced through a number of neuroscience- and humanistic-based associations that are elicited during the storage and retrieval processes. Repetition of these associations and the terms' meanings and usages also play a central role in the method. (Randolph, 2016, p. 2)

The Head-to-Toe Method is a teaching and learning system that is comprised of approximately 40 different components. "The method is essentially a large toolbox—an instructor can pick and choose what he or she feels is necessary" (Randolph, 2016, p. 3). Both students and teachers find this method effective and practical because the majority of the components that help students associate connections and reinforce the meanings of the lexical items are based on each student's unique personality, psychological history, and the culture from which each student comes. In this sense, the Head-to-Toe Method is 90 percent "student-generated" and 10 percent "teacher-generated" (Randolph, 2016, p. 2).

This 90-10 concept is what helps students "own" the lexical items and develop a relationship with the terms on a very personal level. The personalizing of lexical items creates multiple connections in the brain's neural webbing (Randolph, 2015), and it creates a unique spiritual relationship with the English language. I have found that this method encourages students to "feel" the lexical items almost as though they were a part of the students' own physical and cognitive existence. Take, for example, the *embodied cognition component* of my method. I ask the students what body part, organ, or region of the body they associate with a specific term. When we studied the word, "juxtapose," students felt that the term was associated with the hands and arms, and the shoulders and the eyes, because they use those parts of the body to show a gesture when comparing or contrasting two distinct things (Randolph, 2015).

The immediate cognitive association with the lexical item and the students' bodies is a very concrete and real relationship. This is one example of taking an abstract term and making it tangible and more understandable in the students' minds. In the next installment of this series, I will go into detail about more of these tools and how they help personalize and humanize English lexical items.

## **Concluding Remarks**

"Though this be madness, yet there is a method in't."

-Hamlet (Act II, Scene II)

The intent of this first part in the series has been threefold: (1) to show the needs of our students in terms of what kinds and how many lexical items they need; (2) to highlight the current problems and complications that exist in the ESL classroom with respect to the amount of time devoted to vocabulary instruction and how it is taught; and (3) to introduce the basic ideas behind my Head-to-Toe Method.

The central points of my method are to break down the abstract nature of English lexical items and make them more personal and tangible for the students. This, I believe, will help the students see that their own personal histories can help them to connect with the vocabulary items and forge pathways to retain the terms in their long-term memory as they pursue their academic careers at their respective institutions of higher learning.

#### References

Brenner, G. (2011). Webster's new world American idioms handbook. New York, NY: Houghton Mifflin Harcourt.

Ebbinghaus, H. (1913). *Memory: A contribution to experimental psychology* (H.A. Ruger & C.E. Bussenius, Trans.). New York, NY: Teachers College. (Original work published 1885)

Folse, K.S. (2004). Vocabulary myths. Ann Arbor, MI: University of Michigan Press.

Francis, W.N., & Kucera, H. (1982). *Frequency analysis of English usage*. Boston, MA: Houghton Mifflin Company.

Jensen, E. (2008). Brain-based learning: The new paradigm of teaching. Thousand Oaks, CA: Corwin Press.

Kerbel, D., & Grunwell, P. (1997). Idioms in the classroom: An investigation of language unit and mainstream teachers' use of idioms. *Child Language Teaching and Therapy*, 113-123. Retrieved from journals.sagepub.com/doi/pdf/10.1177/026565909701300201

Liu, D. (2008). *Idioms: Description, comprehension, acquisition, and pedagogy*. London, England: Routledge.

McPherron, P., & Randolph, P.T. (2014). *Cat got your tongue?: Recent research and classroom practices for teaching idioms to English learners around the world*. Alexandria, VA: TESOL Press.

Medina, J. (2009). *Brain rules: 12 principles for surviving and thriving at work, home, and school*. Seattle, WA: Pear Press.

Randolph, P.T. (2015). Getting physical: Making connections between the body and vocabulary. *CATESOL News, (47)* 3.

Randolph, P.T. (2016). Introducing Randolph's Head-to-Toe Method of Associations for Vocabulary Acquisition to Break the Ebbinghaus Curse. *MinneTESOL Journal*, Retrieved from <u>http://minnetesoljournal.org/spring-2016/introducing-randolphs-head-to-toe-method-of-associations-for-vocabulary-acquisition-to-break-the-ebbingahus-curse</u>

Sousa, D.A. (2011). *How the brain learns*. Thousand Oaks, CA: Corwin/Sage.

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