



Let's Get Critical: How Word Voyage Teaches Critical Thinking

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There is little doubt that the study of Greek and Latin roots improves vocabulary and reading comprehension. Numerous studies have demonstrated the benefits of careful word study: Ebbers, 2008; Kieffer & Lesaux, 2007; McQuirter, 2007 and National Institute for Literacy, 2008, just to name a few. At some level this simply makes sense: in order to read ever more complex texts, students must become experts at word decoding. An adolescent does not have enough pages behind her to know as many words as a 30-, 50- or 70-year-old, so she has to study the roots and patterns of word formation to give herself an edge.

It is not obvious, however, how the 'mere' study of words could teach *critical thinking*. My memories of frantically turning over little index cards smack more of desperation than critical thinking. And, truth be told, I do not really remember any of those words. The words I remember are the ones I discovered *on my own*.

This is one of the most innovative aspects of Word Voyage: its *critical approach* to word study. Within a structured, teacher-directed lesson, Word Voyage lets students discover word structure, meaning and origin *on their own*, engaging them in the process of critical thinking. Moreover, it guides them through this critical endeavor step-by-step (the schema below is based on **Bloom's Taxonomy**):

Step-by-Step Critical Thinking as facilitated by the Word Voyage lesson module: 'Word Parts with Meaning'

(1) First the student is asked to **build basic knowledge**:

- Pick out the prefix, base root and suffix.

(2) Then the student is pushed a bit farther to **apply that knowledge** to a novel situation:

- Knowing what the suffix is, what is the part of speech?

(3) Now the student can engage in critical thinking: she must **analyze** the knowledge she has by **breaking it into its component parts** and **synthesizing** it into a new format. For example, the word *autonomous* has the following roots and meanings:

1. Prefix: **auto** meaning *self*
2. Base Root: **nom** meaning *law, order*
3. Suffix: **ous** meaning *pertaining to*

Word Voyage asks the student to organize the individual root meanings into an order that states the ‘Word Meaning Up From the Roots’:

- *Pertaining to self law, order*

(4) Finally, the student is asked to make an **evaluation** as she **compares** the synthesized definition to the modern definition. Note that there is no judgment or conclusion made by the program here – simply an opportunity for the student to reflect, evaluate and compare:

- Word Meaning Up From the Roots: *pertaining to self law, order*
- Modern English Definition: *self-governing; independent; subject to its own laws only.*

Unlike the situation with me and my desperate index cards, this is a student-directed process of discovery. Students are not given an answer, rather they use their critical reasoning and their independent research of Word Voyage’s built-in etymological dictionary to solve a series of problems. And, in the end, they are presented with a contrast to evaluate. Thus, the ball is in *their* court, resulting in greater ownership.

Moreover, this kind of ‘assessment-based’ instruction – in which students answer questions instead of listening to theories – is more likely to engender ‘true’ learning. Bjork (2011) presents numerous studies showing that the simple act of asking someone a question before telling them the answer (rather than the ‘traditional’ teacher model of lecturing and *then* testing) leads to long-term retention. So the words that students explore in Word Voyage really will ‘stick.’

This step-by-step, critical approach to vocabulary acquisition has enormous benefits for teachers and students:

1. Breaking old habits and forming new ones

Because Word Voyage is Web-based, students have easy access to their lessons from school or home. Working online, teachers can create level-appropriate assignments that engage the students on a daily basis. This regular practice with *looking inside words* slowly begins to break

the habit of *skipping over unfamiliar words*. Teachers and parents no longer have to beg young people to pick up their dictionaries and look up unknown words. They no longer have to preach about the great benefits of contextual analysis to discover word meaning. Instead, through practice in word analysis, synthesis and evaluation, students begin to develop a *curiosity* about word structure and they naturally begin to stop and *analyze* unknown words on their own: no propaganda necessary.

2. A critical approach to sentence writing

Word Voyage also provides a platform for a *sentence voyage*. The sentence-writing component gives students an opportunity to *synthesize* their knowledge of the word with their knowledge of sentence mechanics as they use their newly discovered word in a sentence. The teacher can specify the type of sentence (declarative, imperative, etc.), the structure (simple, compound, etc.), the number of parts, the minimum words, and even the inclusion of commas and specified conjunctions.

Teachers can even take this voyage beyond students' sentences to other class texts: have students select a sentence from their reading and *analyze* it by type, structure, number of parts, number of words, punctuation and conjunctions. And then have them *evaluate* that sentence: does it make a clear point? Why is it organized the way it is? How would each student do it differently?

3. Critical analysis for all

The individualized word instruction provided by Word Voyage allows students with a *variety of competencies* and at a *variety of levels* to participate in critical analysis. Whether students are working through an advanced Greek and Latin root words list or a basic spelling list, they are all *critically engaging with word structure*. Word voyage takes critical thinking and meets students *where they are*.

And, unlike other individualized classroom programs, the very nature of Greek and Latin prefixes, roots and suffixes means that there are a myriad of words of varying levels formed out of *the same pieces*. For instance, *accent, incantation, and disenchantment* all contain a word root meaning 'to sing'. Students could do a class project exploring the meaning of this common English root by working together and comparing the meanings of '*cant / chant / cent*' words (harder words for more advanced students, easier for less advanced). More advanced students could then go on to analyze the words for underlying meaning, synthesizing these meanings into a broader meaning, and evaluating how this meaning is used in our culture. Less advanced students could create word lists and interview friends and family about their insights into the words. Everyone will come back with different *critical insights* that legitimately and equally add to the ongoing conversation about our contemporary English language and how it functions in the world.

4. Starting an academic conversation

Word Voyage provides teachers and students *access* to a wealth of compelling critical conversations about the English language. Students develop a *metalinguistic vocabulary*, enabling them to step into the world of linguistic analysis and, therefore, cultural analysis. For example, with the tools that Word Voyage offers, teachers might ask, "how does word structure

differ in nonstandard dialects?” The class could investigate a writer like Zora Neale Hurston, looking at:

- Word parts with sound (e.g., *prayin'*, *doin'*)
- Word parts with meaning (e.g., *we were a-walkin' for 3 days* – the prefix *a-* emphasizes the length of time of the activity of walking)
- Word origins and history (e.g., *ain't* from *am+not*)
- Sentence writing and grammar (e.g., sentences without a subject like *Got in trouble.*)

In this way, teachers can piggyback on critical word and sentence analysis, moving into critical dialect and even cultural analysis.

5. Critical authority

By teaching students to critically investigate words through knowledge *building*, *application*, *analysis*, *synthesis* and *evaluation*, students are gently led to a place of *authority*, to a place where they begin to take joint *ownership* of the English language.

Many of us have had the experience of being in a foreign country with one of those travel guides that spells out common phrases in phonetic transcription. These guides get us around, but we are forever in a position of powerlessness. We can't *see inside* those phrases and truly *understand what we are saying*. It is only when we study the language, learn the grammar, and memorize some of the vocabulary that we can return to the country as more legitimate participants. Only then can we ask and answer questions with authority.

I would argue that this is the experience of many young people. Unable to see inside the indecipherable phonetic symbols, they rush through the phrase book as quickly as possible, never truly *owning* either the language they read or the language they write. With Word Voyage, they are becoming native speakers of academic English, able to converse fluently and understand better both the phrases they read and the phrases they write. This allows them to become more invested in those phrases, to use them with more authority, and to be in a position to take a *critical stance*.

In Conclusion

Word Voyage certainly stands on its own as a powerful critical tool, but it becomes even more powerful when it is *integrated into other course activities*. Make Word Voyage a part of your reading, writing and thinking. Here are some ideas:

- Create word lists in Word Voyage for each book or unit you teach in class (e.g., the vocabulary from *To Kill a Mockingbird* or vocabulary which came into the English language at the same time as a particular historical event you are discussing).
- Offer incentives for finding Word Voyage words, prefixes and roots in other classes and even outside of school (e.g., for every 25 roots a student finds outside of class, s/he gets a free 'upgrade' on a quiz grade or a pass out of study hall).
- Do a 'synonym challenge' with a selected passage from a course text: ask students to substitute up to 5 of the words with Word Voyage words and then discuss the changes in tone and meaning.

- Create ‘root trees’: based on the idea of a family tree, have students find as many words as they can for a given root, placing them closer to the trunk if they came into English earlier and further out on the branches if they came in later.
- Have the sentence-writing component do ‘double duty’ and answer a question from social studies or science as well.

As teachers, we often struggle with the complexity of critical thinking and how to engage our students in it – Word Voyage can be that starting point. Words are incredibly powerful tools we can give our students: tools to communicate, tools to persuade, tools to change others’ perceptions of their own realities. But in order to access the power of words fully, students need to follow the steps to critical engagement, **building knowledge** about words, **applying** them in new situations, **analyzing** their parts, **synthesizing** those parts in interesting and creative ways, and **evaluating** the ways words work, both on their own and in sentences. Word Voyage gives teachers a platform for this kind of critical thinking and true *academic* work.

About the Author

Abigail Konopasky received a Ph.D. in Linguistics and Slavic Linguistics from Princeton University in 2001 and a Ph.D in Educational Psychology and Research Methods from George Mason University in 2016. She is currently the curriculum consultant for Word Voyage and also the research specialist and project manager for research studying parent-child interactions in informal STEM environments through George Mason University.

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