Quomodo Dicitur? The Importance of Memory in Language Learning

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Abstract

Second language acquisition (SLA) research results have substantially transformed the way languages are taught in the classroom, with a significant shift away from rote learning toward the creation of a communicative classroom environment. Yet communication is impossible without lexical and morphological competency. SLA researchers have begun to investigate the role of working memory in language acquisition, a field largely left previously to cognitive psychologists and neuroscientists. Much of SLA research in this area thus far has focused on the learning of English as a second language, but the findings have clear implications for the Latin classroom. This article provides a survey of recent research results, particularly as they pertain to learning vocabulary, and offers some ways in which Latin instructors can modify their pedagogy in order to optimize for their students both the acquisition and the retention of vocabulary. Also included are some activities with which teachers may begin to incorporate learning strategies that have proven to be effective.

Keywords

memorization, vocabulary, SLA, working memory, teaching strategies

Memorization used to be standard fare in the classroom. From multiplication tables to speeches from Shakespeare, most of the baby-boom generation had regular experience committing pieces or chunks of information to memory. Indeed, more than twenty years ago my high school students had to memorize the opening lines of the *Bellum Gallicum*, if for no other reason, I told them, than that when they were at a cocktail party and confessed to years of Latin study, they would have an impressive response when asked to say something in Latin. They also were expected to memorize lists of vocabulary and, of course, their paradigms. But, while most of them were quite good at memorizing vocabulary for a quiz, they could not remember it for the test a week later; and while they had their declensions and conjugations nailed, they did not recognize the endings in textual context, freed from the structure of the paradigm.

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In the modern (as opposed to ancient) language classroom, memorization used to play an even greater role. The audio-lingual method was in vogue in the United States in the 1960s, and each student took a vinyl record home after school to listen to and memorize a dialogue. Such an approach is still in use in other parts of the world—particularly in China[1]—and, while scoffed at for decades for focusing too heavily on situational discourse rather than real communicative skill, recent research demonstrates that memorization (as opposed to incidental acquisition of vocabulary and syntax) can and should play a role in the language classroom, as discussed in depth below (see Appendix for Suggested Activities).[2]

The strong push for the communicative classroom largely forestalled research into the role of memory in language learning among Second Language Acquisition (SLA) researchers until the early 1990s,[3] and I daresay memorization remains a dirty word, avoided by most Applied Linguistics scholars. Instead, researchers now favor the term 'deliberate learning,' no doubt to distinguish the approach from the rote learning so favored in the middle of the 20th century.[4] Encouraged in part by and generally relying on the results of cognitive science research, particularly concerning working memory, a substantial number of researchers have turned to examine the role of memory in SLA, particularly in the acquisition of vocabulary.

1 See particularly Chang Zonglin, whose article offers a consideration of the seismic shift in English language instructional approaches in China away from grammar-translation to audio-lingual and communicative methods.

2 O'Malley and Chamot rightly point out that the audio-lingual approach to language instruction focuses on grammatical accuracy rather than communication (31-32). Student learning consists of conditioned response to specific input in set social situations, e.g. ordering food at a restaurant or buying a ticket at the train station.

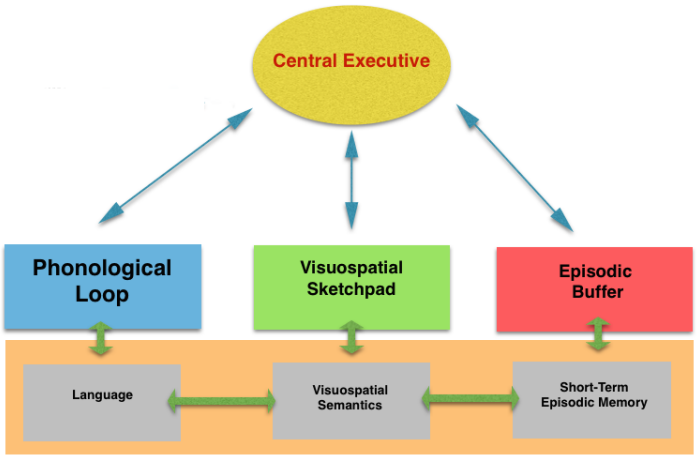
3 For a concise summary and extensive bibliography of research on the acquisition of vocabulary, see Laufer 2009.

4 As early as 1959 in his review of a book by B.F. Skinner, Noam Chomsky railed against the memorization of dialogue, a method advocated by behaviorists, who defined language learning as the result of stimulus and response. In a 1966 address to the Northeast Conference for the Teaching of Foreign Languages, republished in a 2002 collected volume of his papers, Chomsky remarked, "Language is not a habit structure. Ordinary linguistic behavior characteristically involves innovation, formation of new sentences and patterns in accordance with rules of great abstractness and intricacy" (349).

Types of Memory

Before considering empirical results from SLA investigations, let me first briefly describe the various types of memory as determined by cognitive science researchers:[5]

1) Working memory (WM): this used to be incorrectly called short-term memory, but it is vastly more than a time-limited storage facility. Indeed it is limited by both time and capacity, but rather than merely storing, it is a processing center that can deal with between five and nine pieces of information at one time, and, in the most widely used model, first conceptualized in 1974 by Alan Baddeley and Graham Hitch, it consists of three parts: the phonological loop, in which the content and sequence of input is memorized; the visual-spatial sketchpad, which creates an image or plan of what our senses perceive; and a supervisory attentional system (SAS), the central executive, that controls which of these two subsystems will store new information.[6] In 2000, in response to test results that showed adequate first language ability in subjects with deficits in the phonological loop, Baddeley modified his model adding a fourth component, also subject to the SAS, called the episodic buffer, which has the ability to access both short and long term memory and to retain



Source: loopa.co.uk

5 The mostly friendly introduction that I have found to these concepts is Baddeley (2004).

6 Randall offers a clear explanation of Baddeley and Hitch's model as well as a useful introduction to the cognitive framework in which languages are learned (5-30). The field of cognitive science is difficult for the non-specialist, often jargon-filled. But Randall provides an accessible introduction to research results that are the most salient to language instruction.

and reuse information. Given its recent addition to the model, episodic memory is largely untested.[7]

2) Long-term memory (LTM): while WM is a conscious process—the mind is actively considering some kind of sensory input—LTM is a subconscious process, which is even more complex than WM, as not all long-term memories are actually retained for the long term. Though not at all well understood, duration of retention seems to depend on how many links are made between the new entry when it arrives and items already present in LTM, as well as its regular retrieval and reactivation (Randall 126-130).

LTM consists of: declarative memory that we can consciously access—things like words, facts or numbers, and memories of past events; and procedural memory—skills we have gained from experience but whose procedural steps are opaque to us, e.g. tying shoelaces, an action that we can complete without any conscious thought but that seems amazingly complicated when we have to explain it to a five-year old. This latter type, procedural memory, is what allows us to speak automatically and with fluidity, with little conscious attention to the process.[8]

LTM's role in language learning is largely unresearched, likely because longitudinal studies are extremely difficult to design and carry through. However, many factors that seem to enhance the retention of information in LTM are particularly pertinent to language learning: the repetition of information; the personalization of the material—that is how much the student relates to it; the chunking of lexical units with the result that meaningful phrases are stored in the same way as words; the number of associations made between new material and material already stored; the provision of context for the new item; affective factors (things that prompt the learner's emotions); physicality (the connection of memory to movement); and conscious decision making about the relevance or place of the new material (Bilbrough 43-44).

In language learning, the WM needs to offload pieces of comprehended language into LTM in order to consider the next chunks. There is an encoding process by which it looks for links in LTM for the purpose of storage and retrieval. One

7 Juffs & Harrington remark that (at the time of their writing) no SLA research had investigated the role of episodic memory (140). Other models represent working memory as an activated part of long-term memory; see discussions in Sagarra, 2, and Wen, 2-4.

8 Automaticity is understandably critical to fluency in a language. Segalowitz notes its characteristics: fast in processing, unstoppable (i.e. an utterance once begun simply pours forth), load independent (i.e. the quantity of information needing to be processed is irrelevant), effortless, and unconscious (382-391).

important limitation for second language learners is that retrieval of information stored in LTM often requires much more participation of the WM than for their first language.[9] The second language learner cannot rely on automaticity, particularly in the early years of study.

Peter Skehan remarks unsurprisingly that a good memory is one of the key features of language aptitude—along with the ability to recognize patterns and strong auditory skills (234-5). I would argue that memory is the most important of these, particularly with respect to vocabulary; without lexical items there is no language and no possibility for either comprehension or production. Other researchers have determined that we speak our native languages with fluency only because we are able to piece together sentences on the fly—improvisationally—from memorized chunks of meaningful language, leading one of them to remark that we are "much less original in using language than we like to believe."[10] Thus memorization and retention of words and phrases is crucial to proficiency.

SLA Research on the Role of Working Memory

Let us move now to specific SLA research on the role of various kinds of memory in language learning, most of which has been focused on the role of WM in acquiring and retaining new vocabulary. Of the various aspects of WM, the phonological loop or phonological working memory (PWM) has been the focus, because it appears to be the chief mechanism for processing language and memorizing information.[11] PWM, itself, has several distinct functions: holding content, maintaining the sequence of the content, and rehearsing the content sub-vocally. All three functions are easily demonstrated when we need to retain information for the short term—e.g. a telephone number or street address. Retention is profoundly affected by the number of phonemes required for the task and by the capacity of the learner's WM—the longer the sequence, the more difficult it is to master.[12] The limited capacity

9 Randall Chap. 6. Robinson notes that new information is rehearsed in WM, which encodes the input for storage in LTM; it also plays a crucial role in retrieval of information (631).

10 Lewis 11; he continues, "Much of what we say, and a significant portion of what we write, consists of prefabricated multi-word items."

11 Although aptitude in second language learners is poorly understood, there is general consensus that the capacity of a learner's WM and particularly of PWM is crucial for early learning (Juffs & Harrington 138).

12 Williams 437-438; he advises instructors to be sensitive to the varying WM capacities of their students, as well as variation in their attentional systems, and to pay particular attention to what a task demands of PWM.

of WM governs the way in which it can be explored, with most studies investigating how single words are processed and stored. One important caveat regarding the research discussed below: virtually all of the studies focus on learners of English as a second language (ESL). English has a larger lexicon (perhaps 1,000,000 words) and more idioms (at least 25,000) by far than any other language, and so students of English need to know many more words/phrases in order to speak or read fluently (Pellicer-Sánchez 2). Thus, projections of how many words or word families an ESL student needs to command in order to function at an intermediate or advanced level have little relevance for the study of Latin, whose lexicon and figurative language are vastly smaller. Yet much of SLA research on WM has clear and enlightening implications for the Latin classroom.

Encountering New Vocabulary

Of primary concern to SLA researchers in the last twenty years has been investigating the source of new vocabulary. Comprehensible input (CI) in communicative environments has long been accepted as an ideal conduit for acquiring lexical items. Immersion settings that flood the learner with language in compelling interaction with native speakers make understanding and communicating imperative and are thus profoundly effective in prompting acquisition.[13] But few language students have the benefit of a full immersion experience; their learning instead must rely on perhaps five hours of classroom time for forty weeks a year—not enough contact with the language for even the best student to acquire sufficient vocabulary to read or speak fluently. Lexical sources beyond communicative interaction must be tapped in order to expand the learner's internal resources.

1) There is strong evidence that reading is a profoundly effective way for learners to acquire new vocabulary in their first language. Unfortunately, the same results are not evident for second language learners. A number of studies have shown that a reader needs to know at least 95% of the words in a text in order to infer the meaning of unknown vocabulary (Gu 2015: 5). The most recent SLA research results indicate that this percentage is too low, indeed that

13 Stephen Krashen's five hypotheses (input, acquisition-learning, monitor, natural order, affective filter), now often referred to collectively as "the input hypothesis," have been fundamental to SLA research for more than three decades. They have been questioned, refined, expanded, confirmed, sometimes even refuted, but Krashen's work remains profoundly influential and an important starting point for the application of SLA research to classroom practice.

98% is the correct number (Pellicer-Sánchez; Schmitt, Jiang, and Grabe; Hu & Nation 419). Furthermore, words that are new to the reader must appear repeatedly in the text—at least eight times each in varying contexts, but arguably many more—in order to be acquired (Pellicer-Sánchez 4).[14] Reading works well as a conduit for vocabulary for native speakers because they already have a strong basis in the language. By the time English-speaking children begin to read, they comprehend as many as 20,000-25,000 words; by adulthood that number doubles (or quadruples depending upon educational level) and continues to grow. Furthermore, native speakers can read extensively, many more and much longer texts than a second language learner. So as long as text is age-appropriate, it is a great source for new vocabulary. But in the second language classroom, even if reading is pitched at precisely the right level with few new words and the needed repetition, learners simply do not have a strong enough foundation in the language for reading to be an efficient way to acquire new vocabulary, until they are of advanced proficiency.[15]

2) Deliberate learning (rote learning/memorization) of vocabulary has received a great deal of attention in the last decade, and the research results are not only encouraging but reflect what many language learners report anecdotally: that they can learn a substantial number of words fairly quickly with word cards (used in most of the studies on deliberate language learning, along with computer programs). Research results indicate that in deliberate learning vocabulary is learned and retained at a higher rate than words encountered incidentally.[16] Several factors have been shown to enhance the successful use of word cards, including the addition of memory prompts—

14 See also Laufer who concludes that cloze exercises and writing activities that ask students to create sentences or compositions are significantly more effective for the acquisition of vocabulary than reading (2003: 583-584). Horst et al. find that "explicit and systematic instruction that focuses on high frequency vocabulary" is necessary, since, particularly for intermediate readers, reading may reinforce known words but does little for acquiring new ones (221).

15 Pellicer-Sánchez (3) remarks that for second language students, the uptake of new vocabulary is low and requires follow-up to be truly effective.

16 See particularly Boers and Lindstromberg, section 3.1, and Nation 2013.

pictures, sentences, key words (Nation 2001: 296-316), repeated and spaced study, and the addition of an auditory component.[17]

3) While deliberate learning is effective for all types of words, research done by Ulf Schuetze with beginning students of German supports earlier findings that function words (conjunctions, adverbs, particles) are much harder for students to retain than nouns, verbs, and adjectives, likely because they do not carry content critical to rudimentary comprehension. In addition, his study confirmed two other factors: the longer the word, the harder it is to retain, and similar sounding words are often confused (39). Finally, a number of studies have shown that there is a great advantage for students to learn intentionally chunks of language, frequently used phrases, which facilitate both comprehension and production (Boers & Lindstromberg 35-39). Learning such phrases as '*cura ut valeas*', '*quid agis hodie*', '*bonum mane tibi exopto*', '*signo dato*', '*mihi curae est*', '*quae cum ita sint*', not only encodes them as lexical items, but likely serves a major role in creating automatic response patterns in the brain. There is enough empirical evidence from cognitive research to suggest that given enough memorized chunks, the brain finds the grammatical patterns within them and is then able to anticipate and process similar patterns when it encounters them.[18]

4) A long-standing concern has been whether or not memorized words become part of the implicit (that is subconscious) knowledge of the learner. Critical studies conducted by Irina Elgort have demonstrated that, like vocabulary learned incidentally through CI, words learned deliberately do in fact become integrated into the learner's

17 See Bürki, whose study of beginning students of English found that auditory support for word card study increased the percentage of words learned and retained by about 20% (225-226).

18 Hopper argues convincingly that repetition of forms and phrases in sufficiently varied situations compels the brain to form a sub-system that defines their grammatical function. Thus grammar emerges from repeated and effective expression (158-167). His hypothesis is in direct controversion to the concept of 'a priori' grammar that controls correct utterance. Randall also stresses the value of learning chunks, not only for creating automatic response but for establishing grammatical patterns (170). Nick Ellis also remarks that the ordering function of PWM is crucial in learning grammatical forms and sequences (2012: 19-21).

> internal lexicon, the implicit system, and can be automatically accessed. Thus there is no disadvantage to the intentional learning of vocabulary.[19] I should make clear here than none of these researchers suggests that deliberate learning should comprise a majority of the language student's time or effort. Indeed, each of them sees it as merely a part of a balanced approach to language learning.

One final but crucial factor that can derail deliberate learning is that our students too often have little or no experience with memorization of any kind. Indeed, I can stun a roomful of students by breaking into Antony's speech from Shakespeare's *Julius Caesar*, which I memorized now more than 45 years ago; I suspect that many of my contemporaries could do similar. But we cannot assume that our students have any sense of where to begin to commit something to memory. Not surprisingly, research shows clearly that students who are taught a variety of memorization techniques—association, visualization, auditory repetition, etc.—fare vastly better in learning and retaining vocabulary than those who are simply told to memorize it.[20]

Retrieval and Retention

Of course memorization is not enough. I once knew Antony's entire speech, but now I can only recall the first ten lines or so, because those are the ones I trot out for shock and awe; the others have been relegated to the trash and cleared out of my LTM. Retrieval and use is paramount for any real and lasting acquisition. Batia Laufer notes that SLA research is now shifting away from the source of vocabulary learning to issues of elaboration, task involvement and rehearsal (2009: 341). The term elaboration is used by SLA researchers to describe any formal process that is designed to add information to the knowledge of a word—from simple syntactical information (e.g. part of speech) to more complex relationships, e.g. the contexts in

19 Elgort's research on implicit knowledge gained from deliberate learning of vocabulary and her 2011 article detailing her results have been profoundly influential among SLA researchers. Her work is widely cited.

20 Folse 88-106. In a chapter devoted to debunking the misconception that the most effective learners use only one or two strategies to learn vocabulary, Folse offers a number of different approaches and demonstrates that, in fact, successful students have their own individualized set of strategies, which might include learning the component parts of words, drawing relationships with synonyms or antonyms, visualizing, and keeping a notebook, any and all of which might be used to supplement memorization. He is also a clear advocate of metacognition; i.e. students should investigate and understand their own learning processes.

which the word generally appears (collocation). These elaborations help not only retention but retrieval.

1) Research by Gregory Keating, among many others, makes clear that active involvement with the language is vastly more effective in fostering long-term retention than passive reception. Testing something known as the "Involvement Load Hypothesis," Keating found that students who are compelled to use new words remember them and that the percentage of retention increases with the 'involvement load.' So students who had to fill in new words to complete sentences retained more than those who merely read or heard the words, and students who had to create their own sentences using those new words did the best of all (381).[21]

2) While it may not be particularly effective for acquiring new vocabulary, reading can play an important role in its reinforcement. Ana Pellicer-Sánchez suggests that intensive reading, that is the detailed reading of a short text, is useful for rehearsing new vocabulary, while extensive reading (a longer text read primarily for comprehension) is effective for the consolidation of lexical knowledge (4-5). It should also be noted that Keating found that the act of looking a word up in the dictionary led to better retention than seeing it in a gloss;[22] again learner involvement in the process matters (368-370).

3) There is no doubt that reinforcement of a word is critical for acquisition; particularly for high frequency words, which demand intentional strategies, if the classroom student is to make sufficient progress in the language to be able to reading with any fluency (Horst 218-211). Vocabulary may come incidentally from CI or from deliberate learning or from reading, but frequent review, retrieval, and reiteration are required for long-term retention (Folse 158-159).

21 Randall also emphasizes practice over memorization, per se; i.e. students need to think about the word or form, understand it while practicing, and elaborating, with repetition as key (171).

22 This is a particularly thorny issue for Latin instructors, whose textbooks so often include a textual gloss that is readily accessible during reading.

These studies make clear that success for the language student requires both broad and deep exposure to vocabulary, accompanied by activities and exercises that make connections between form and meaning. Student attention must be drawn repeatedly to elements that are critical to understanding, if they are to be retained.[23] Practice and repetition (in communicative settings) is crucial: thinking about the word, understanding it while using it, elaborating on it by considering its qualities, and creating sentences or phrases in which it is used. As Yongqi Gu remarks, successful learners are active, take initiative, and understand their own learning process (2013: 5).

Implications for the Latin Classroom

In his 2011 essay on the application of research results to teaching strategies, Paul Nation laments: "It may be that the problems in the application of research come from teachers' desire (and perhaps need) to simplify the findings of research" (537). I would respond that the body of research is vast, sometimes contradictory, and often jargon-filled. Teachers are perfectly capable of undertaking a multi-faceted pedagogy, once definitive research is shared in an accessible way, and I think that there are some clear implications for the Latin classroom to be drawn from SLA research on WM and vocabulary acquisition, as well as some outstanding questions and several areas of frustration, not the least of which is the lack of research that focuses on Latin learners.

What then, does the research conducted to this point advise us about classroom practice? Alan Hunt and David Beglar's seven principles for vocabulary development seem to offer a good starting point. They advise the instructor to:

1) *provide opportunities for the incidental learning of vocabulary*; that is, through comprehensible input (CI)—either oral or written. Hunt and Beglar refer to the many studies on vocabulary acquisition gained from extensive listening and reading, while acknowledging, as discussed above, that the latter is only possible for more advanced students. They suggest graded readers for low proficiency learners—alas, something sorely lacking for the Latin classroom.

23 Indeed, Sagarra remarks that attentional control is key to the efficient functioning of WM. The capacity of WM is directly connected to an individual's ability to deal with distraction (2).

2) *identify the 3000 words students need to study*; first this terrifying number is for students of English, a lexically heavy language as mentioned above. The number for Latin students is more likely 2,000—not much less daunting. But the 1,000 most frequent Latin words comprise 70% of a text on average, and those words belong to many fewer word families, that is groups of words built on the same root.[24] If we teach our students how Latin vocabulary is formed—prefix, root, suffix—their lexicon will expand exponentially. Many others in the top 1,000 are function words, crucial for writing and fluid reading. Sadly, few Latin textbooks focus on critical vocabulary or on word formation. It is up to the instructor to determine and fill in the gaps.

3) *provide opportunities for the intentional learning of vocabulary*; if Latin were taught in an immersion environment from early childhood, as it was for centuries, we could expect our students to acquire the vast majority of the words they need to be proficient through CI. But, most of our students come to the Latin classroom as adolescents or adults. We simply do not have the contact time with them for CI to be the sole conduit for vocabulary learning. Deliberate learning has proved to be an effective way to expand a student's lexicon, with word cards being one of its most effective tools. Hunt and Beglar suggest a number of enhancements that might be included on word cards—images, keywords (an English word that sounds like the Latin word but is unrelated), grammatical information, or a Latin sentence with known vocabulary that uses the word. They also offer other useful advice for the process of studying from word cards, based on research results: students should study 5-7 words at a time; the words chosen for the group to be studied should not be semantically related or have similar spelling/form (e.g. *servus* and *minister* or *ferrum* and *feria*) in order to avoid confusion; several short sessions of study are more effective than fewer longer ones. I have always also suggested that my students use blue, pink, or

24 See list here; a quick glance finds that *fero*, *capio*, *mitto*, *specto*, *facio* and their compounds total 25 words, with other words related to *facio* adding another 5.

green cards for nouns to indicate gender. Most important, we need to introduce our students to memorization techniques and help them find what works best for them.[25]

4) *provide opportunities for elaborating word knowledge*; the most obvious way to do this is to provide a set of contexts in which students encounter the new word, but other options include work with derivatives, semantic mapping (i.e. a list of words/circumstances with which the new word is likely to appear), synonyms and antonyms, etc.

5) *provide opportunities for developing fluency with known vocabulary*; as Hunt and Beglar point out, the most salient approach to fluency is the recycling of vocabulary, in all four competencies (listening, speaking, reading, and writing). As Nigel Harwood has remarked there is a notable lack of recycling in most language textbooks (141).[26] As instructors who need our students to have quick access to their internal lexicon in order for them to read with any fluency, we must create frequent opportunities for students to retrieve and use as much vocabulary as possible in high involvement tasks.[27] Pellicer-Sánchez suggests narrow reading, that is reading a variety of texts on the same topic, as the most effective way for lower level students to encounter recently introduced vocabulary (5).[28]

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25 See also Nation 2011, 533-536. While consideration of the value of metacognitive awareness to student success is beyond the scope of this paper, I have found think-aloud activities in the classroom extremely helpful for my students in identifying the learning strategies that are most useful for them. For example, I might ask students to talk through (often in pairs) the process they use when they first encounter a sight passage or unfamiliar vocabulary, which generally exposes both good and poor strategies and prompts them to incorporate alternative approaches with those they generally use. For a brief and friendly introduction see here.

26 Harwood also points out that variety and novelty are an important part of effective recycling (147).

27 Keating strongly stresses this point. Instructors need to revisit vocabulary frequently, rather than assuming its acquisition simply because it has been presented and assessed (382).

28 John Piazza's website offers a plethora of reading resources; his collection of Latin mythology narrative, for example, contains numerous versions of the same story, allowing repeated encounters with similar vocabulary and comparison of the various narratives.

6) *experiment with guessing from context*; as discussed above, this is most appropriate for advanced learners with sufficient lexical knowledge. In the Latin classroom, bottom-up processing (typified by parsing) is often critical in guessing what a word must mean. Students should also use their familiarity with Latin word structures to analyze the unknown word.

7) *examine different types of dictionaries and teach students how to use them*; while choice in Latin dictionaries is somewhat limited, it is critical that our students learn to read the entire entry for a word. Too often students assume that there is a one-to-one correlation between Latin and English words, rather than a semantic range or even several.

In his consideration of the application of research results to classroom practice, Norbert Schmitt cites Hunt and Beglar's seven principles and then adds six of his own insights (353-354). He points out that:

8) because a large vocabulary is crucial for success, instructors need to set and pursue high targets for their students. I would add that for Latin teachers these goals will most often need to be external to the textbook, since most texts introduce new words as they pertain to the reading at hand, rather than with an eye to either frequency or semantic field.

9) different approaches to vocabulary instruction may be necessary at various stages of the learning process; as obvious as this may seem, too often teachers assume that the only way to instruct Latin vocabulary is with English equivalents and derivatives. While this is <u>one</u> way (see 10 below), it is far from the only way. Teachers can and should use a multitude of approaches, including: images, TPR, TPRS, and meaning-focused input (CI) and output (speaking or writing), that is, communicative activities that require students to integrate new words into their lexicon.

10) establishing a link between meaning and form is crucial at initial stages of language learning, and using the student's native language

is a sensible way to accomplish this. Much as it pains me to agree with Schmitt here,[29] there is strong evidence that beginning students of a second language need to be able to hook its vocabulary to words and concepts in their native language. Even advanced students may need to do this with conceptually difficult vocabulary. I cannot imagine explaining a complex concept like *virtus* or *auctoritas*, without some discussion in English.

11) repetition is essential; this is so sensible that it might be overlooked, and yet too often students learn vocabulary for a quiz or test, only to forget it immediately thereafter. Whatever name researchers choose to use, retrieval, reuse, or recycling, it is clear that teachers must provide opportunities for students to encounter and use vocabulary repeatedly, if it is to become part of their internal lexicon and thus accessible for fluency.

12) contextualized word knowledge is also key to acquisition; here Schmitt uses the term collocation, one that is a key component of the Lexical Approach described by Michael Lewis.[30] Many words are used in specific contexts with other words, not only in idiomatic use but in the every day. While collocation is rarely considered in Latin textbooks, it is no less valid a feature of Latin than it is of any other language, though fluent readers of Latin tend only to have a feel for what seems right. It would be immensely useful for teachers to have a vocabulary resource less cumbersome than the Oxford Latin Dictionary, which offers common collocations for important words.

29 As co-founder of the *Conventiculum Bostoniense* and a strong advocate of active learning (speaking and writing), I would prefer to think that we could simply teach Latin in Latin. But the exigencies of our educational system make it impossible for students to make sufficient progress without direct instruction in vocabulary. We can optimize that time by focusing on teaching skills that will enable our students not only to memorize words but also to understand the structure of the Latin lexicon.

30 Lewis is a great resource, as he offers a number of specific activities and exercises meant to help students identify and learn chunks of language; much of what he presents could be adapted for the Latin classroom.

13) engagement with words is necessary for their acquisition; it is not enough to introduce vocabulary. Students need to use new words repeatedly in meaningful and compelling interactions in order for those words to become part of their internal lexicon. While this paper is not about student motivation, there is no question that the desire to participate is a crucial factor in language learning.[31] Thus, the ideal language classroom has a variety of engaging activities that compel students to use new words and recycle previously learned material.

Finally, I like to add a few things that I have noted in my many hours of classroom observation; these are less quantifiable but crucial aspects of learning that have to do with the society of the classroom and the persona of the teacher. What qualities of in-class experiences make something memorable? First, I suggest simplicity, i.e. what we present and the students encounter must be understandable; next, unexpectedness—don't we all remember best the weird thing the teacher did in class; thirdly, concreteness—students need to be able to wrap their minds around what they see, hear or read; fourth, credibility—what they encounter should seem believable, even if they have to suspend their doubt—we need to make it real; fifth, emotions—get them laughing or crying and they'll remember forever; last and best of all, the telling of stories—because that's how we define ourselves as humans. And, of course, we Classicists are fortunate to have the best stories to tell!

31 See Dornyei for a summary of the research on motivation among second language learners as well as a series of recommended strategies for prompting engagement.

Appendix of Suggested Activities

Before I outline a few activities, let me first recommend Nick Bilbrough's *Memory Activities for Language Learning* as a resource for classroom exercises that apply many of the types of strategies discussed in the body of this article, particularly for reviewing/recycling vocabulary. Although all are designed for students of English, most are adaptable for the Latin classroom. Then a disclaimer: I have not taught either beginning or intermediate Latin for many years, but I do teach a methods course that includes active approaches (in a department with a number of Latin-speaking faculty), and I supervise teaching practica and practicum equivalents. Many of our program graduates use the activities that I present below, I have seen how effective each of them can be, and several are used by my colleagues in immersive classroom settings.[32]

32 In 2012, UMass Boston began teaching Latin at all levels using all four language skills. Classes are not taught entirely in Latin (approximately 70-80% in beginning courses), but active use of the language (speaking and writing) is a critical component at both the undergraduate and graduate levels.

Introducing new vocabulary

Activity 1: Multi-sensory vocabulary (enhanced deliberate learning)

1. The teacher briefly introduces 6-10 new words (ideally semantically related, e.g. parts of the house or the natural world, but this approach can also be used for textbook lists, if necessary).

2. As homework, students are required to find a picture, a sound, or a keyword (an English word that sounds like the Latin word but is unrelated) that works as a prompt for them. They send these to the teacher.

3. The teacher selects and arranges submitted memory prompts employing whatever media is appropriate, and uses the prompts to review the new vocabulary, with the Latin word appearing after it is recalled. (e.g. Ecce Romani I Chapter 12 Vocab)

4. As the unit progresses, new word prompts are added, and the teacher can edit the assemblage as needed and make the presentation available to students for review.

5. Such presentations can and should be revisited regularly, and this can be done as a planned activity or spur of the moment, without burdening the teacher.

There are several advantages to this approach: 1) students provide the material, saving time that the teacher simply does not have; 2) because the materials are student-generated, they have skin in the game, and they get excited when their contributions are chosen; 3) connections for remembering new Latin words move beyond an English translation; 4) contributing prompts help students to understand their own learning process; 5) student choices are often compelling, funny, or quirky, and thus memorable.

Activity 2: Quid vides in pictura (1)?

1. The teacher selects a picture whose subject matter suits a substantial portion of the new vocabulary to be introduced, bearing in mind which words will be most difficult to describe (these are generally conjunctions or adverbs, e.g. *enim* or *diu*)

2. Then students are asked, '*Quid/quem vides/videtis*?' They will generally respond with Latin nouns they already know—*puella*, *villa*, *canis*, etc. The teacher or an appointed 'scribe' writes each word on the board.

3. The teacher then asks, "*Quid facit* ____?" or "*Quid accidit*?" These questions will prompt Latin verbs; questions with *quo*, *quomodo*, *quando* will prompt adverbs or adverbial phrases.

4. When students have provided all of the familiar vocabulary (a useful review), the teacher then points to parts of the picture that demonstrate new vocabulary, describes what is happening using known vocabulary along with the new word, and writes the words on the board making visual connections (lines or arrows) to the known vocabulary.

In this exercise, preferably conducted entirely in Latin so that students make connections between new and known words, students are given visual and auditory context for new vocabulary. This type of exercise can be used at any level of instruction, with more sophisticated questioning for advanced students; e.g., a class reading the Aeneid might look at a seascape and talk about all of the various words Vergil uses for the sea.

Elaborating vocabulary

Activity 3: Visual and Written Illustration (productive elaboration)

1. Students choose several new words that they have been introduced to and have used already in class, preferably in communicative interaction.

2. They draw an illustration of each word (or find an appropriate picture), labeling items in the drawing/picture with the new Latin word and any other known words that are illustrated, and then they write an accompanying Latin sentence that describes the picture, using the new word and known words only.

3. Illustrations and sentences may be shared with the class or may be used on assessments.

This activity bears clear resemblance to Activity 1 above, but assumes some exposure to and familiarity with the appropriate context for new vocabulary. This exercise can be done in class or for homework, and students should be encouraged to choose words that they are having difficulty remembering. A variation might have students working in pairs, exchanging illustrations and writing sentences based on their partner's work, or exchanging sentences and drawing illustrations. The goal is for the students to create multi-faceted semantic connections for new words within their existing internal lexicon.

Activity 4: Quid vides in pictura (2)?

1. The teacher may use the same picture chosen for Activity 2 above or a new picture with the same theme/elements.

2. First, students point out items in the picture that relate to recently introduced vocabulary. The teacher or scribe writes the words on the board.

3. Then, with a series of questions using *qualis*, *quocum*, *cur*, *estne* etc., the teacher elicits other words (especially adjectives, synonyms, and antonyms) and qualifying phrases/clauses connected to each of the vocabulary words from the students.

4. In pairs, students write the new words at the head of columns or in the center of circles (any graphic organizer will work) and then add as many words or phrases associated with each word as they can, employing what they have just heard and adding their own ideas; e.g.:

   gramen, -minis n.
   viride
   in pratis
   pars naturae
   pastor, -oris m.
   animalia pascunt
   syn. herba, herbae

   seges, segetis f.
   agrum frumenti
   agricola, -ae m.
   frumentum ipsum
   e.g. far, farris
   rel. spicifer
   syn. messis, -is

arbustum, -i n.
locus colitus
multae arbores
fructus ferentes
poma, -ae f.
persicum, -i n.
citreum, -i n.

horreum, -i n.
aedificium
agricola, -ae m.
in fundo
locus frumenti collecti
locus tutus

5. The students share any new connections they may have discovered with the class.

This exercise in elaboration is designed to embed new words within their appropriate semantic fields, making them not only easier to remember, but also to use appropriately. The teacher should determine how much time to spend priming the activity with the picture. As the students grow accustomed to this type of activity, the teacher should be able to shift the balance toward the paired portion.

Activity 5: Fabula Mea/Fabula Tua/Fabula Nostra

1. Students work in teams of three to create a short story (three or four sentences) using recently-introduced vocabulary (specified by the teacher) and two modern-day celebrities (chosen by the class as a whole[33]). Using a dictionary and the teacher as a resource, they may add no more than two unfamiliar words to their story.

2. The groups are then paired, and they create a third story from the original two. They must use every sentence from each original story and may add only conjunctions and interjections.

3. The paired groups may then share their stories with the class, or the teacher may collect the combined stories and create a single story for the class to read together at its next meeting.

4. The class story can be revisited and further elaborated as students learn new vocabulary and syntax. Students can also be asked to reproduce their stories in writing from memory as accurately as possible.

This activity is particularly effective for younger high school students, who get deeply vested in the process and its results. The story is likely to be quirky, even a little disjointed, but it will almost always be an effective vocabulary learning tool (as well as reinforcing syntactical knowledge, as students want to make certain that their stories are understood).

33 I recently saw a version of this activity in a first year classroom, using Beyoncé and Justin Bieber. The students were wildly enthusiastic, and the resulting story was both riotously funny and quite impressively complex.

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