REPETITION IN LANGUAGE LEARNING: AVOIDING COLLATERAL DAMAGE

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REPETITION IS WIDELY ACCEPTED as essential to developing a skill; however, repetition in language learning was devalued, starting in the 1960s. This paper claims that the de-emphasis of repetition was collateral damage when the audiolingual method in language teaching was rejected. It notes that repetition has remained in exile for over forty years and suggests that this is at least in part due to an acceptance of Chomsky's views on the language faculty. The paper ends with a recommendation that it is time for meaningful repetition, in both production and reception of language, to re-appear as an important aspect of language acquisition and language pedagogy. Suggestions for incorporating repetition in language learning activities are described.

Keywords: repetition, frequency, behaviorism, language faculty, language learning

> As a single footstep will not make a path on the earth, so a single thought will not make a pathway in the mind. To make a deep physical path, we walk again and again. To make a deep mental path, we must think over and over the kind of thoughts we wish to dominate our lives.
> –   Henry David Thoreau (2006:27)

THE VALUE OF REPETITION in learning activities, from serving a tennis ball to singing a folksong, has always been assumed. Nevertheless, an aberration has occurred in language learning theory and practice. The perceived value of repetition diminished in the 1960s and has yet to be sufficiently revived. With consideration for audiences who are interested in the intersection of linguistics, language acquisition, and language pedagogy, the aims of this paper are (1) to explain how that aberration came about, (2) to justify a renewed acceptance of repetition, and (3) to describe some appropriate repetition activities in language learning.

To explain how repetition became devalued, we will first review some well-known history. By the 1950s, behaviorism was closely associated with linguistic theory, language learning, and psychology. The impact on these three areas was significant when Chomsky's review (1959) of Skinner's *Verbal Behavior* dethroned behaviorism. Our focus in this paper is on what happened in the second area, language learning.

To consider this subject, one might use the metaphor of dirty bathwater being dumped out and replaced with fresh water. The audiolingual method was the 1950s bathwater (i.e., the mainstream paradigm) in language learning. The audiolingual method was thrown out because of its association with behaviorism, and we note that it was dirty because it neglected the importance of meaningful learning. Unfortunately, there was a baby in the bathwater: repetition! Repetition was discarded not because it is inherently bad; rather, it was collateral damage from the attack on behaviorism. The baby we want to save needs fresh bathwater in which meaning (i.e., understanding by language learners) is valued.

The 1950s bathwater in linguistics (American Structuralism) was shoved aside by Chomsky's Generative Grammar, which soon claimed that the mind includes a genetically-based faculty akin to an organ that is specialized for language. Chomsky's theories have also had an enormous impact in psychology, given that his critique was at the forefront of a waterfall of criticism towards Skinner, contributing to the shift from the 1950s bathwater of behaviorism to a more cognitively centered paradigm. What is less well known, for some, is that Chomsky has also heavily influenced the mainstream language learning theory, often associated with Stephen Krashen, a prominent theorist in second language acquisition. Indeed, Krashen's theories were a major force in the displacement of audiolingualism (ALM) and have helped prolong the exile of repetition.

We will describe here the influence that Chomsky had on Krashen, as illustrated by comments Krashen made during a visit to the Department of Foreign Language at the US Air Force Academy (USAFA) in January 1989. After a demonstration of the Academy's interactive video software that was enhanced with interactive capabilities, which included repetition, Krashen commented that the team should not go to the trouble to provide added functionality, including learner-controlled repetition and access to word meanings using an online glossary. To paraphrase his reaction, "Don't worry about all that! Use your resources to simply provide more video." We will then make a case for the re-introduction of repetition in language learning.

The type of repetition encouraged by this paper is not repeating the same string of words, over and over again, without understanding them. Indeed, some research (Gatbonton & Segalowitz 2005) suggests that repetition is meaningful when it is embodied in activities that involve multiple instances of a lexical item or a grammatical construction in various contexts, all of which include tools to help the learner comprehend the new language they encounter. Although frequency and repetition are sometimes used interchangeably, we will use frequency here to refer to the number of times an item occurs in authentic situations, such as a corpus of texts or transcription of spoken language. We will use repetition to refer to learning activities that present a lexical unit multiple times in various meaningful contexts, either authentic or contrived, in activities that call for production or recognition. Frequency occurs incidentally; repetition occurs by design. Thus, repetition in learning activities does not entirely depend on naturally occurring frequency. Furthermore, we are using the same term, repetition, for both production and reception of language, and we make no claims here as to the relative and comparative value of each.

The paper ends with specific suggestions for types of language learning activities involving repetition. Linguistics, language learning, and psychology need to come together again, this time with meaningful repetition that occurs in engaging activities.

2. HOW REPETITION CAME TO BE DEVALUED. American psychology in the first half of the 20th century was heavily influenced by behaviorism, with an early view provided by John Watson's paper "Psychology as the Behaviorist Views It" (1913). Given that the study of language is tightly bound to theories of the mind, theories of learning, and theories of behavior, behavioristic tenets soon came to influence and shape linguistic thought.

Regarding linguistic thought, American Structuralism along with European Structuralism marked the transition from studying language diachronically (using the historical-comparative method) to studying it synchronically. Leonard Bloomfield, a leader in this movement, promoted what would now be called a corpus-based approach to studying a language, starting with

observed sounds and moving methodically up to larger elements, such as words, gradually working up to the study of syntax and semantics, without assuming that all languages would fit into a pre-determined mold. This descriptive method (Bloomfield 1933), which he had already successfully applied to the study of a number of languages, such as the Algonquin American Indian languages, can be seen as a reaction to the tendency to try to analyze all languages in terms of how they relate to Latin or French. Some misunderstood Bloomfield to have claimed that meaning is not relevant to the study of language, forgetting that field study by its very nature is highly contextualized. Illustrating this fact, Fought (1999:10), in the introduction to a massive collection of commentaries on Bloomfield, notes, "The distributionalists who followed [Bloomfield] ... converted his doctrine into a sweeping warrant for suspending the structural analysis of meaning." After his initial field work, Bloomfield embraced behaviorism in the 1930s, a move that later led to unforgivable guilt by association from Chomsky's perspective.

Unfortunately, similar guilt by association sidelined work by such people as Kenneth Pike, the founder of Tagmemics. He had been inspired by Bloomfield and Sapir as a young linguist (Pike 2001) and was extremely talented at learning elements of a language he had never before encountered, from sounds all the way to meanings of words. Pike could use meaningful elements of a previously unknown language in a very short time, by interacting with native informants, handling everyday objects, and using repetition with controlled variation. This example of non-behaviorist structuralism in action clearly demonstrates the value of intelligent repetition within meaningful contexts.

In 1942, however, World War II precipitated an urgent need for trained junior officers and soldiers with technical skills as well as expertise in languages. Rather than building on all of the positive aspects of these previous efforts, developers ignored the value of context and meaning and seized upon a readily implementable and isolated element of those efforts: a form of rote memorization through oral recitation of dialog lines and drills. The government addressed the urgent needs of that critical era with the creation of the Army Specialized Training Program (ASTP) where German, French, Italian, Chinese, Japanese, Malay as well as other languages were taught (Richards & Rogers 2001). Within one year, 53 universities were teaching languages using techniques that were significantly influenced by Bloomfield's thinking (Fought 1999), and that became known as the Army Method.

After the war, evolutionary developments, grounded in structural linguistics and the work done in the ASTP, led to what became the audiolingual method (ALM) (Richards & Rogers 2001), which was replete with rote repetition of pattern drills. The latter provided the basis for much of Robert Lado's work in the teaching of English as a Second Language (ESL) (Richards & Rodgers 2001), leading him to become an outspoken advocate of ALM (Lado 1964) and contribute to its broad impact in the teaching of English.

A misapplication of Bloomfield's strictly bottom-up field methods led to a de-emphasizing of meaning, context, and understanding in the language classroom. Teachers were told that the native language was a distraction and that seeing the written word would do a disservice to the long term success of the student. In a cheap imitation of field linguistics, students were exposed to whole phrases of so-called natural speech by rote drills, without the context of visual and social-communicative cues.

In 1957 B. F. Skinner, the prominent behavioral psychologist, published *Verbal Behavior*, which brought together psychology and linguistics, and eventually became a convenient target for a budding linguist, Noam Chomsky, who published his landmark book, *Syntactic Structures*,

the same year. Although its association with behaviorism was not formally part of the initial formulation of ALM (later known as Audiolingualism), Skinner's theory of learning became inseparably associated with ALM, primarily due to the writing of Wilga Rivers (Castagnaro 2006). Indeed, in her book, *The Psychologist and the Foreign Language Teacher*, she stated, "the audiolingual methods are based on the Skinnerian theory, and it is from this basic theoretical position that their advocacy of 'mimicry-memorization' in pattern drills and dialogue learning has been derived" (Rivers 1964:29). This association (right or wrong) grew in the minds of many, until *Verbal Behavior* came to represent behaviorism, behaviorist linguistics (à la Bloomfield), and Audiolingualism, all together and inseparable.

Chomsky's review of *Verbal Behavior* (1959) was widely regarded outside of psychology as a successful attack on behaviorism in general and Skinner in particular, labeled many years later as a "masterly and highly influential critique" (Ellis 2002:177). Almost immediately, Audiolingualism and American Structuralism were on the defensive. And as if Chomsky's derision of Skinner and Rivers' linking of ALM to behaviorism were not enough, the results of the Pennsylvania Foreign Language Research Project (Carroll 1969) delivered the coup de grâce to Audiolingualism. Due to the almost absolute synonymy that had developed between Audiolingualism and behaviorism, they faded into the past for most people in the language learning field, taking with them repetition as an acceptable pedagogical technique.

In linguistics, Chomsky's approach to language has often been called a revolution. After introducing the notion of competence as a mental model of a language[1], Chomsky (1965) later proposed that the mind of an infant comes with a genetically determined faculty (sometimes called an organ) called a Language Acquisition Device (LAD) or the language faculty. Chomsky's view of language soon became mainstream, promoting the notion of this innate faculty of the mind, which was diametrically opposed to the blank state of behavioristic theory.

Beyond the negative impact Chomsky had on behaviorism, his claim of the existence of a language faculty or language acquisition device influenced a whole generation of post-ALM language teachers, primarily through the impact it had on Krashen's Monitor Theory (Dulay, Burt, & Krashen 1982). The various hypotheses of Krashen's model provided the major underpinnings for the Natural Approach (Terrell & Krashen 1983), but the Input Hypothesis[2], which Krashen cast in the pseudo-mathematical form $i + 1$, is probably the most well-known aspect of his theoretical model.

It is not the Input Hypothesis itself that kept repetition in a devalued position after the rejection of Audiolingualism and its rote repetition. The main culprit in the continued exile of repetition from language learning was the acceptance of Chomsky's views on the language faculty. If a universal grammar at the heart of all languages is genetically part of the language faculty, including the concepts behind the words we use, then, it was supposed, one encounter with a sentence that illustrates how parameters are set could be sufficient. As Stephen Straight

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[1] In psychology, Chomsky's campaign opened the door to cognitive approaches. The Stanford Encyclopedia of Philosophy (Stanford 2010) lists Chomsky as one of six founders of cognitive science and suggests Boden (2006) for a comprehensive history of cognitive science. In the year 2000, University of Minnesota's Center for Cognitive Sciences compiled a list of the 100 most influential works in cognitive science from the 20th century. The number one work was Chomsky's *Syntactic Structures* (1957). Chomsky helped replace behaviorist perspective with a cognitive perspective.

[2] Krashen's Input Hypothesis, a key element of his Monitor Model, asserts that language can only be acquired by students reading or hearing messages ("input") slightly beyond their current ability to comprehend ($i + 1$).

characterizes an extreme, Chomsky-based position, "One trial sets a parameter; repetition is useless" (S. Straight, personal communication, November 14, 2010).

After the rather significant impact of Krashen's model, however, the formulation he developed of the relationship between input and comprehension was judged inadequate by Gass (1988). She modified Krashen's explanation of the relationship between input and comprehension to add apperception and intake[3] as part of the process that leads to comprehension and acquisition, an addition that remains widely accepted today.

Still other scholars have asserted that Krashen's model did not adequately account for the role of interaction and negotiation in SLA. Their addition to theory plays a significant explanatory role in suggesting how the learner gains increased access to the form and meaning connection (Pica, Doughty, & Young 1986; Pica 1994).

So, where does this leave things? Chomsky discredited Skinner. This action was part of a larger mosaic in which mainstream psychology changed its focus from observable behavior to a psychology of mind. The result was a shift in psychology away from behaviorism and toward cognitive approaches, some of which posited genetically-based mechanisms like Chomsky's LAD. Krashen later adopted the notion of a language faculty and posited that learning cannot lead to acquisition[4], and now we see where Krashen has fallen into disfavor.

These shifts from one theoretical paradigm to the next have tended to be absolute, and this absolutism has affected linguists and language teachers alike. When one or two tenets of an old paradigm are found to be lacking, based on observations that most often reflect valid, theory-based concerns, then entire theoretical models are rejected and their proponents discredited. For example, Ellis (2002) now laments Lado's passing into obscurity, because Lado's work with frequency in language occurrence reflected findings very much akin to those in his own, more recent research. He points out that Lado embraced ALM despite the fact that it involved "pattern drills in which the role of understanding was minimized as much as possible" (Ellis 2002:177), thus dooming the bulk of Lado's thinking to 40 years of exile.

Essential to this discussion is the fact that Ellis seems to lament the impact on his own research, caused by the decades-long loss of Lado's valuable and theoretically sound ideas about frequency and repetition, which in essence constituted even more collateral damage wrought by a too uncritical acceptance of Chomsky's LAD model. Furthermore, Chomsky's venture into learning psychology can easily be viewed as a serious overreach, given that he had only a very meager knowledge of the subject he was attacking. Ironically, this corresponds with what Chomsky saw as Skinner's overreach into linguistics (MacCorquodale 1970). Thus, the learning paradigm which Chomsky so viciously attacked was only superficially understood by him (and his followers) and amounted to Chomsky annihilating nothing more than a straw man (Ausubel, Novak, & Hanesian 1978).

Commenting on these developments, Castagnaro (2006) argued that the audiolingual method's misplaced attachment to behaviorism plus a misunderstanding of fundamental aspects

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[3] Apperception and intake are steps in the process whereby comprehension of "input" is first noticed or "apperceived" and then comprehended and then becomes part of the learner's acquired cognitive structure, i.e., it becomes "intake."

[4] Krashen's Acquisition-Learning hypothesis is a hallmark of his theory of second language acquisition and well known to the field of second language acquisition. He maintains that learning is conscious and the product of formal instruction, where acquisition is supposedly a more natural by-product of actual communication using the language (Krashen 2010).

of behaviorist theories have caused scholars in SLA to disregard the importance of practice, such as repetition. Indeed, a quick examination of typical language textbooks in use today reveals the apparent prejudice against repetition as a valid instructional technique. Perhaps supporting the existence of this apparent prejudice, one researcher comments that despite arguments and evidence of the value of repetition "little research has examined its sociocultural, discursive, and affective roles in education, and the ways in which certain kinds of repetition can enhance or impact language, content, and communal learning" (Duff 2000:111). Thus, repetition was rejected with ALM and has not yet been revived in the post-ALM period of language teaching, and disagreements abound. For example, one particular debate addresses issues with drills, a type of practice that involves repetition, and whether they can have value (Wong & VanPatten 2003, Leaver, Rifkin, & Shekhtman 2004, Wong & VanPatten 2004). Other researchers take a more moderate view and maintain that all drills are not created equal (DeKeyser 2007) and recognize that the important question is whether activities that imply repeated performance can help establish the necessary form-meaning connection through a focus on form.

3. WHY REPETITION SHOULD BE RE-VALUED. The rejection of repetition as a pedagogical tool has impoverished the field of language learning and led practitioners to ignore the necessity of the type of practice that builds up a mental corpus of data. Rehabilitating repetition, however, would constitute neither an endorsement of behaviorism nor a rejection of the existence of innate cognitive processes. As Patricia Kuhl (2000:11856) states, "Infants are neither the tabula rasas that Skinner described nor the innate grammarians that Chomsky envisioned. Infants have inherent perceptual biases that segment phonetic units without providing innate descriptions of them. [...] infants detect patterns, exploit statistical properties, and are perceptually altered by that experience".

Recent work by various applied linguists supports the notion that repetition is an integral part of how the mind acquires the ability to process language (Bybee & McClelland 2005; Beckner, et al. 2009). Other researchers draw similar conclusions from their work on frequency (Abbot-Smith & Tomasello 2006). Supporting the value of repetition while also casting it in a different light from the practice in the days of audiolingual methodology, Duff (2000:110) concluded that repetition should be "relevant to the learners – a form of negotiation of messages and texts – and not merely (or entirely) a mechanical or rote parroting of structures that does not ultimately enhance students' proficiency in the target language." Elaborating on the notion of relevance, Hu, Liu, & Zhang (2010) have shown the extent to which repetition of Chinese words with positive "emotional valence" is more effective than repetition of those described as negative. Work by other researchers supports the value of repetition in "sociointeractional" settings (Piirainen–Marsh and Tainio 2009) or in "sociocultural" settings that involve collaboration (Gánem-Gutiérrez 2009). In their work on repetition by video game players who interacted during play, Piirainen–Marsh & Tainio (2009:165) concluded that by "repeating and imitating meaningful chunks of language" the players are able to adopt new words and phrases "into their own repertoire so that the patterns may become available for recycling in other contexts."

Some linguists have proposed alternatives to Chomsky's view of the human language faculty in which repetition is basic. For example, Lamb (2006:301) writes, "people learn as units any combination that has occurred with sufficient frequency or to which sufficient attention has been given". Furthermore, we learn from these and various other sources in the literature that humans are born with natural biases towards the segmentation and classification of input. We file away

complex streams of data into webs of associations based on perceived similarities we may not even recognize on a conscious level. To maintain and further develop that network of understanding, we are constantly monitoring and re-evaluating the world around us, organizing new information into new knowledge as we go. With this phenomenon we consider a principle that Newell & Rosenbloom (1981:2) called the "power law of practice," which they say is "ubiquitous" in all kinds of practice learning. Stated simply, the more we accomplish a task, the faster we become in its performance. Considering quantity of known information along with speed of use, it does not require much of a stretch of the imagination to presume as well that the more we experience, the easier it is to learn from future experience. This assumption leads us to a brief discussion of the concept of complex adaptive systems with respect to language acquisition

As the Five Graces Group (Beckner, et al. 2009:2) put it, "speakers' behavior is based on their past interactions, and current and past interactions together feed forward into future behavior.... The structures of language emerge from interrelated patterns of experience, social interaction, and cognitive processes." Their work grew from the work of John Holland (Beckner 2009), who described these networks of adapting connections as Complex Adaptive Systems. Even as the macrolevel of sentient beings exists with a view of time (the arrow of time) utterly different from the timeless world of the atomic particles that compose it, so Holland asserted that such systems of isolated data could recombine into an infinitely variable system of comprehension that could comprehend more than what was originally contained in the component parts.

Several of these references (Duff 2000; Piirainen–Marsh & Tainio 2009; Gánem-Gutiérrez 2009) are grounded in the sociocultural movement. Work in this area gained substantial acceptance in many quarters with the assertion by Firth & Wagner (2007:286) that "SLA research is imbalanced in favour of cognitive-oriented theories and methodologies" and their statement of the conviction that "language – as a social and cultural phenomenon – is acquired and learned through social interaction." One might conclude that by pursuing research within the context of this movement, some proponents of repetition have perhaps gained cover for their work that would otherwise not be sufficiently politically correct.

And so we assert that a widespread network of linguistic data, which is full of redundancies and semantic variations that accompany each word in all its many possible contexts, can give rise to a speaker who is fully-fluent, full of genius and idiosyncrasy. The speaker thus becomes over time richly endowed with innovation and insights of metaphor, all without the necessity of a language acquisition device[5]. The means for developing this network is not unitary, rather it is one that relies on a combination of social interaction, negotiation of meaning, and yes, even exposure to massive amounts of comprehensible input as advocated by Krashen.

4. BRINGING BACK REPETITION, THIS TIME WITH MEANING. Our purpose in this paper has been thus far to demonstrate how repetition has been neglected, and why we believe it is important to reincorporate practice into language teaching. Now, we turn to how we can accomplish this.

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[5] Those who are not familiar with Chomsky's claims about Universal Grammar are referred to an exchange with Ullin T. Place as documented by Schoneberger (Chomsky & Place 2000). Of course, there are hundreds of descriptions of Universal Grammar, but this one is brief and clear and in Chomsky's own words.

Our recommended practices hinge on three key principles:

(1) All input (especially repetitive input) must be meaningful. To that end, learner-initiated focus on specific elements for extra repetition or error correction can be just as valuable as long, uninterrupted presentations of video or text.
(2) Repetition should not mean word-for-word parroting. Words, structures, sounds, and semantic categories should act as a motif, overlaying novel contexts and activities with intrinsic interest and engagement.
(3) Repetition in pedagogy should not be limited to the visual and audio elements of reading, video, etc. Kinesthetics, cognition, and other productive processes are self-monitored in the language learner, and comprise a form of input that is every bit as valuable as those that are externally-generated. Because these processes are internal, they are impossible to observe directly and thus difficult to analyze, but they are real nonetheless.

In these tenets we can see differences between our approach to repetition and both Krashen's Natural Approach and Audiolingualism. We have already indicated a disagreement with theories of language learning that Krashen adheres to (namely, that input is used to merely awaken sleeping linguistic patterns, born into our LAD), but here we note that improvement will not merely come from exposure to more and more video, nor more and more reading. In order to maintain learner motivation and allow the mind to fill in its conceptual network according to its own intuitively understood failings, the answer becomes not more video, but more of the same video, and for as long as the learner may need. This allows for a more solid i, prior to trying to add +1.

Secondly, we firmly desire to be clear that our approach should not be confused with a call for reinstating Audiolingualism. ALM was based on the principle that language is a system of habits, and repetition is necessary to embed and reinforce those habits. Our recommended practices assume that language is a system of connections between stored exemplars (concepts, words, sequences of words, structural patterns, etc.), and that repetition merely facilitates the storage and retrieval of exemplars and reinforcement of the connections. Where ALM held that errors were bad, because they created bad habits in speaker behavior, the practices we recommend embracing the notion that learner behavior is not the only way to form mental associations; thus, normal interlanguage errors may be counteracted with sufficient repetition of correct language patterns so as to create a preponderance of correctness in the learner's mind, thus increasing the probability of a correct response. ALM theory included the belief that language should be learned aurally/orally before written input is presented. We believe that all forms of input are equally valuable, as long as the student has the foundational knowledge (e.g., the ability to read the target orthography) to make it meaningful.

With respect to the Audiolingual Method's use of repetition, however, a central flaw (along with lack of disregard for meaning and context) lies in the question of type vs. token frequency. ALM used paraphrasing, a form of type repetition, but limited itself to only certain inflections necessary for certain useful variations. These paraphrases maintained as much of the original structure as possible. Other ALM activities generally center on repetition of tokens, to maximize its behavioral conditioning. Since the popularity of ALM, research has generally undermined the strength of token repetition for imprinting memory and influencing linguistic behavior (e.g.,

Kanwisher 1987; Bavelier, Prasada, & Segui 1994; Bybee 1995). Type frequency has been put forth instead as a key factor in the mental corpus (Bybee 1995:433).

In response to this, our recommended practices harken back to the previous mention of Holland's Complex Adaptive Systems, and the concept that a whole can be more than the sum of its parts. We believe that the principles of Complex Adaptive Systems apply to the building of semantic comprehension as well as to grammatical fluency.

In kindergarten classrooms, an entire day may be devoted to a single letter of the alphabet. On *A* day, everything that starts with an A is labeled in script, then named aloud. In this way, the student sees the letter in many different contexts, while simultaneously hearing it pronounced with every variant of inflection, emphasis, pronunciation, accent, etc. This confluence of A, then, supposedly coalesces into a single concept, reinforced by the rewarding and engaging activities of the day. For purposes of adult acquisition, any naturalistic conversation, such as a movie scene, does the same thing as a word is repeated in various, sometimes wildly different utterances, all with some commonality that contributes to the acquisition of word sense. Then, of course, this structured process reinforces the concept with an interesting storyline, simultaneously offering multiple sensory inputs to engage learners who possess different learning styles. Students are then encouraged to produce language using the same elements repeated throughout the lesson, creating slightly different contexts over and over as they converse.

Imagine, for example, what would happen if the method discussed above for learning the first-language with the letters could be used to explore related word meanings. For example, students might be given a word to study, and exposed to as many meanings as possible, through as many modalities as possible, in as many contexts as possible, repetitively and through engaging activities. The natural tendency to categorize should extend to semantic similarities in addition to grammatical ones and should help develop the grasp of nuance, connotation, metaphor, and appropriate linguistic creativity, all attributes of a native speaker.

The genesis of these recommended practices with respect to engaging and meaningful repetition is based on work done at Brigham Young University and the US Air Force Academy. First came work at Brigham Young University (BYU) in the early 1980's on the annotated version of the Mexican movie, *Macario* (Schneider & Bennion 1982). Shortly thereafter, another project explored the concept of annotations using the movie, *Raiders of the Lost Ark* (Branvold, Chang, Probst, & Bennion 1986). Each of these projects explored the notion of using movies, which are by definition inherently engaging, accompanied with annotations to help ensure comprehension. The *Macario* project specifically mentioned the use of repetition, "the student can stop the film and back it up, repeating portions as often as desired. If two repetitions in Spanish fail to produce comprehension, the system makes the English soundtrack available" (Schneider & Bennion 1982:36)

Where that work targeted students at the intermediate to advanced level taking courses in Spanish literature, work at the US Air Force Academy in the late 80's targeted beginners (Bright, Verano, and Cubero 1991; Bush 2008). This software enabled the viewing of video segments from videodisc, enhanced with various options for controlling playback. Learners could stop the video, see the transcript of the current segment, and then click on words to see definitions in English. They could also play segments as many times as desired. Additional activities enabled the development of sound to symbol correspondence by jumbling: (1) sentences within each video segment, (2) words within each sentence, then (3) the letters of selected words from key

sentences. The video was engaging due to the story-based nature of licensed programs such as *French in Action* and *Destinos* for Spanish and the availability of definitions helped ensure comprehension. The ability for each student to control the video and to complete the various exercises provided repetition according to individual need. Furthermore, subsequent research demonstrated that such interactivity improves learning outcome (Moraco 1996). Given Krashen's dismissal of the value of such enhancements, these findings are at the same time interesting and quite ironic. The developers had based a lot of their work on Krashen's theory of comprehensible input and felt the interactivity actually broadened the range of learners that could benefit from a given video program.

Current work at BYU falls into two categories, each of which can include annotations that support meaningful repetition. Feature films provide engaging input that language learners are happy to view over and over, as a whole or segment by segment, and are being explored by the Electronic Film Review (EFR) project (Chen 2009). In another project researchers are developing streaming capabilities that combine various features of the work described above and more. Rather than needing the sort of specialized hardware of the past such as videodisc players that are massive compared to today's technologies, the video will be deliverable on the typical Internet browser. Such a configuration can benefit from tools that are accessible using Web services for obtaining definitions and translations to insure that repetition is meaningful.

Finally, in a vein similar to our recommended practices for video, Gatbonton & Segalowitz (2005) have proposed a communicative language teaching methodology that targets the development of what they term automatization. Specifically, their work highlights the importance of repetition of key phrases, or "Essential Speech Segments" (2005:328) for promoting fluency.

5. CONCLUSION. In short, we believe that the time has come to re-introduce meaningful repetition into language acquisition theories and the language classroom. We invite experiments to measure the effect of repetition, and we encourage language teachers to use meaningful repetition without shame.

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