

Purdue University Purdue e-Pubs

Purdue Linguistics, Literature, and Second
Language Studies Conference


PLLS 2019 Proceedings

Sep 29th, 11:30 AM

Optimizing L2 Vocabulary Acquisition: Applied Linguistic Research

George H. Borawski
borawski.linguist@gmail.com

Follow this and additional works at: <https://docs.lib.purdue.edu/plcc>

 Part of the [American Studies Commons](#), [Classics Commons](#), [Comparative Literature Commons](#), [Digital Humanities Commons](#), [English Language and Literature Commons](#), [Feminist, Gender, and Sexuality Studies Commons](#), [Medieval Studies Commons](#), [Modern Languages Commons](#), [Modern Literature Commons](#), and the [Other Languages, Societies, and Cultures Commons](#)

Borawski, George H., "Optimizing L2 Vocabulary Acquisition: Applied Linguistic Research" (2019). *Purdue Linguistics, Literature, and Second Language Studies Conference*. 1.
<https://docs.lib.purdue.edu/plcc/2019/papers/1>

This document has been made available through Purdue e-Pubs, a service of the Purdue University Libraries. Please contact epubs@purdue.edu for additional information.

Optimizing L2 vocabulary acquisition: applied linguistic research

George H. Borawski

Abstract

Any acquisition in Second Language Acquisition (SLA) starts as word recognition; as such vocabulary acquisition is integral to language learning as a whole and is a precursor to fluent communication (Ellis, 1996; Moore, 1996). To maximize SLA, vocabulary acquisition must be optimized. However, vocabulary acquisition is understudied and underutilized, especially compared to other aspects of SLA (Paribakht & Wesche, 1997). Cook states, "...the vast bulk of examinations, syllabuses, and course books around the globe show little overt influence from SLA research" (1998, p.10). Courses, teachers, and students would benefit from directly addressing SLA research, rather than utilize inefficient methods (Cook, 1998; Moore, 1996). Problematic course books influence thousands of teachers and a multitude of students (Cook, 1998); this costs educational institutions billions of dollars globally. Prioritizing sound pedagogy when designing courses would alleviate the problems of inefficient acquisition in SLA and the financial cost. An outline is presented for creating and supplementing programs in instructed SLA, these guidelines utilize linguistic research on vocabulary acquisition:

- 1) The course is built using frequency data, from spoken corpus in the target language.** Zipf's law dictates that word frequency occurs on a predictable curve where the most frequent word is twice as common as the next most frequent word; word rank is inversely proportional to frequency (Milton, 2009). The 100 most frequent words can be up to 50% of a text (Moore, 1996). The 2,000 most frequent words of English make up about 80% of the language. The next 2,000 words are 8% of the occurrences (Milton, 2009). Vocabulary sorting based on frequency, will provide the most useful words and

will front-load functional words, allowing L2 acquirers to create grammatical constructions (Milton, 2009; Moore, 1996).

2) This frequency determined L2 vocabulary, uses small, alliterated word lists instead of semantic sets. Alliterated word lists and phonological similarity improve L2 vocabulary retention (Hulstijn, 2003; Laufer, 2009). Semantic sets have been shown to create confusion (Hulstijn, 2003; Schmidt & Watanabe, 2001).

3) Pseudo immersion is avoided because it is not effective for L2 acquirers (Schmidt & Watanabe, 2001). Cody (2009) states, 'immersion' and incidental learning are often attempted. Although immersion is effective for (multiple) L1 acquisition, post critical-period acquisition is radically different; 'mere exposure' will not work (Hyltenstam & Abrahamsson, 2003). Explicit instruction in the student's native language is encouraged (Atkinson, 1987). Lexical meaning must be taught explicitly and utilizing explicit instruction can double retention rates (Laufer, 2009; Laufer & Hulstijn, 2001).

4) Mnemonic devices, visual and otherwise are utilized. Flipping an image upside creates a unique association with the word, rather than have the learner 'mediate' with the L1 representation, which they would otherwise default to (Hulstijn, 2003). Learner generated mnemonics were found useful in Cohen's 1987 study (Laufer, 2009). Multiple studies have determined that mnemonic devices comparing an L2 with a semantically related L1 word are effective (Hulstijn, 2003)

Keywords: Second Language Acquisition, SLA, Multiple Language Acquisition, MLA, Second Language, L2, Instructed SLA, Explicit-implicit debate, Explicit Instruction, Immersion, Corpus Linguistics, Phonology, Morphology, Mnemonics.

Vocabulary acquisition is integral to language learning. For effective communication it cannot be sidelined in education programs. To maximize Second Language Acquisition (SLA), vocabulary acquisition must be optimized. However, vocabulary acquisition is understudied and underutilized, especially compared to other aspects of SLA (Paribakht & Wesche, 1997). Cook (1998) states, "...the vast bulk of examinations, syllabuses, and course books around the globe show little overt influence from SLA research" (p. 10).

Though no one disagrees vocabulary is important, the level of importance is disputed¹. Vocabulary acquisition like any other aspect of language acquisition may be optimized. Compared to other aspects of SLA, there is very little research on what enhances second language vocabulary acquisition (Paribakht & Wesche, 1997). Many programs use techniques that are ineffective and even counterproductive. Many instructors are willfully ignorant and rely on 'common knowledge' or 'what worked for them'.

Courses, teachers, and students would benefit from directly addressing SLA research, rather than utilize inefficient methods (Cook, 1998; Moore, 1996). Problematic course books influence thousands of teachers and a multitude of students² (Cook, 1998); costing educational institutions billions of dollars globally. Prioritizing sound vocabulary pedagogy when designing courses would help alleviate the problems of acquisition in SLA and the financial cost. This paper presents an instructed SLA model³ to build a program or as a program supplement with an

¹ The role vocabulary acquisition plays in SLA is disputed. Measures of vocabulary-acquisition as being indicative of foreign-language-acquisition is even questioned (Milton, 2009).

² Dubin & Olshtain (1986) state, older syllabi did not utilize lexis enough (as cited in O'Dell, 1997).

³ The program outline or supplement lends itself to instructed SLA, as it is by nature explicit, although principles may be applied by independent learners.

emphasis on researched based vocabulary acquisition techniques. The proposed outline for second language (L2) programs is as follows:

1) Instructed SLA uses frequency data from spoken corpora, in the target language, dialect and register. Vocabulary sorting based on frequency is a 'rational basis' for selection of words (Nation & Waring). The most useful words are acquired first and frequency sorting will front-load functional words, allowing L2 acquirers to create grammatical constructions (Milton, 2009; Moore, 1996).

2) This frequency-determined L2 vocabulary uses small, alliterated, phonologically similar or morphologically related word lists instead of semantic sets. Alliterated word lists and phonological similarity improve L2 vocabulary retention (Hulstijn, 2003; Laufer, 2009). Despite being prevalent, semantic sets have been shown to create confusion (Hulstijn, 2003; Schmidt & Watanabe, 2001).

3) Explicit instruction in the student's native language is encouraged (Atkinson, 1987). Lexical meaning must be taught explicitly and utilizing explicit instruction can double retention rates (Laufer, 2009; Laufer & Hulstijn, 2001). Pseudo-immersion is avoided because it is not effective for L2 acquirers (Schmidt & Watanabe, 2001). Although immersion is effective for (multiple) first language acquisition (FLA), post critical-period acquisition is radically different; 'mere exposure' will not work (Hyltenstam & Abrahamsson, 2003).

4) Mnemonic devices, visual and otherwise are utilized. Learner generated mnemonics were found useful by Cohen (1987), (as cited by Laufer, 2009). Multiple studies show that mnemonic devices comparing an L2 word with a semantically related first language (L1) word are effective (Hulstijn, 2003).

Why Vocabulary?

Any acquisition in a second language (L2) starts as word recognition; as such, vocabulary acquisition is a precursor to fluent communication (Ellis, 1996; Moore, 1996). When acquiring an L2, words are mapped into the mental lexicon as a process of moving an item out of the articulatory loop and eventually to the phonological long-term memory (Ellis, 1996). Vocabulary acquisition results from recognizing a form and attaching meaning (Ellis, 1996).

Knowing vocabulary stock makes effective language learners (O'Dell, 1997). Without adequate vocabulary communication is difficult; Twaddell (1980) states, L2 acquirers have, "...an infantile vocabulary and an adult mentality'...(p. 442)", (as quoted by Zimmerman, 1997, p. 12). Zimmerman (1997) states, "...native speakers can better understand ungrammatical utterances with accurate vocabulary than those with accurate grammar and inaccurate vocabulary" (p. 13). According to Ellis, acquisition is ordered: lexical form, vocabulary meaning ('phonological word-form-label'), phrases, then finally grammar⁴. Learning vocabulary is a precursor to analyzing and acquiring grammatical structure (Ellis, 1996; Schmidt, 2010).⁵

Issues & Acknowledgements

Because this paper strives to address vocabulary acquisition broadly, general issues in the SLA vocabulary debate must be addressed. For further reading in attested and mutually inclusive

⁴ Ellis states, "... as soon as the learner acquires sufficient mass of L2 lexical items and their collocations in phrases that display their argument frames, then the same abstraction processes that tune the phonological system, at a higher level of representational unit, tune the grammatical system: As learning progresses L2 lexical categories are acquired..." Orthographic development also paralleled (1996, p. 100). Despite this, foreign language teaching books, state more contemporary theories on learning, are not linear (acquired by learning smaller pieces) (Moore, 1996). Though, Anderson and Singley (1989) non-linguistic study showed that lateral-transfer is much more common than a vertical (hierarchical) transfer (Odlin, 2003).

⁵ Schmitt (1998) study showed no hierarchy between spelling, word association, semantics and syntax acquisition (Laufer, 2009).

strategies to the outlined program see: non-verbal cues (Hulstijn, 1997); financial rewards (Laufer & Hulstijn, 2001); motivation⁶ (Schmidt & Watanabe, 2001). For further reading on working memory⁷ see Ellis (1996) and Wolfe and Belle (2007). In addition, on critical period versus adult acquisition, (inter-language) fossilization, multiple FLA versus SLA, further reading is also available and integral to the explicit instruction versus immersion debate (Long, 2003; Gass, Behney & Plonsky, 2013).

Vocabulary acquisition studies often focus on the difference between intentional and incidental learning. Methodological and terminological considerations are important. For instance, what is meant by incidental learning? Conflation of ‘incidental learning 1’ and ‘incidental learning 2’ means it is unclear if subjects did not know they would be tested or only that they learned without intent (Laufer & Hulstijn, 2001). Many educators believe in the value of incidental learning and attempt some form of immersion (Cody, 2009). Ideas from Krashen (1985), a controversial work, are often propagated. Krashen states, “...the only contribution classroom instruction can make is to provide comprehensible input” (as cited in Doughty, 2003, p. 257). Wesche and Paribahkt cite Krashen (1989) stating, “Second language research on this issue...indicates that extensive reading programs are generally more effective than systematic vocabulary instruction using decontextualized exercises.” (1997, p. 174).

⁶ *Need to learn* creates a ‘tension’ that could improve cognitive performance. The motivation-performance dynamic is described by the Yerkes-Dodson Law (Oxford, 2017). In addition, Laufer and Hulstijn posit that there is a construct which includes separate processes of ‘need search’ and ‘evaluation’ (2001).

⁷ The link between working memory and SLA is often examined. What could be the most effective way to increase performance on second language acquisition is akin to increasing intelligence. Working memory or phonological short-term memory ‘facilitates’ second language vocabulary acquisition (Ellis 1996). The same ability determines grammar acquisition (ibid). Ellis cited studies that tested novel word repetition and found that this skill was indicative of potential language ability. Ellis states, “To put it bluntly, learners’ ability to repeat total gobbledegook is a remarkably good predictor of their ability to acquire sophisticated language skills in both the L1 and the L2.” (1996, p. 102).

Nation and Newton (1997) theorize vocab learning is incidental and the primary goal of communication activity. Zimmerman (1997), states excessive vocab is a problem and that meaning derived sententially or within a discourse. In addition, words that convey exact meanings cross linguistically are 'highly technical words' (Zimmerman, 1997).⁸

Other terminological issues also pose a problem. Testing of *meaning acquisition* creates the problem of the dimension of depth. Even researchers defining the level of meaning acquisition or comprehension they are looking for use words like 'ordinary' and 'normal'⁹. These terms are vague and subjective (without strict, explicitly explained definitions). On top of ill-defined synonyms of 'normal', what should be termed 'typical' development in SLA is unknown (Moore, 1996).

Although the program cautions against semantic or topic-based vocabulary sets, it acknowledges that lexical sets *of interest*¹⁰, spark intrinsic desire to learn (O'Dell, 1997). The program and word lists may be adjusted to 1) teach in chunks to instruct more full pronoun systems, case, other grammatical features (Zimmerman, 1997); 2) consider 'coverage' in terms of contexts like the versatile 'go' and *range* in terms of registers (O'Dell, 1997); 3) instruct on embedding CP's (O'Dell, 1997); 4) take into account availability as in 'salt & pepper'¹¹ (O'Dell, 1997).

Issues with mnemonics and visuals: only limited words maybe used as visual objects in

⁸ The author acknowledges that authors cited in the text are often proponents of multimodal instruction. For example, Nation and Waring (1997), state guessing from context as well as incidental an indirect acquisition is sound. The author also acknowledges that the discussion of 'vocabulary', and a focus on vocabulary is by design for languages with a relatively low isolating index: for languages with richer morphology a morphological corpus could be substituted.

⁹ Even the word 'typical' is vague, though less subjective. It is definable, even in not defined in the respective study.

¹⁰ Although in a classroom setting it is difficult to cater to individual interests.

¹¹ Although strong co-locations would present themselves in the corpus data, so the outline may not need radical adjustment.

mnemonic device. Therefore, use of the keyword method is restricted to tangible keywords (Hulstijn, 1997). Related to mnemonics and tangibility, people generally test better for recall, word recognition, pair association, lexical decision and even pronunciation for words that are ‘concrete’ objects rather than abstract (Hulstijn, 1997). Ellis and Beaton (1993a), state university students often apply mnemonic techniques on their own (as cited by Hulstijn, 1997); Koda (2003; 2005) showed that language affects image recall (as cited by Wesche & Paribakht, 2010); both issues further complicate methodological considerations. Despite the benefits of utilizing mnemonics and the findings of mnemonic studies, much of the laboratory research on mnemonics is conducted over the period of a week; this timeframe is not long enough (Hulstijn, 1997).

Suggestions and Supplements for Instructed SLA

1.) Step 1: Corpus utilization

The course is built using frequency data, from spoken corpus in the target language. The word-frequency and distribution need to be considered while designing a language-teaching program. Vocabulary choice, rather being arranged thematically or semantically should be based on frequency data.

Charting word frequency informs which words are important to teach. As far back as 1917, Palmer observed, the most frequent words will be learned soonest and are also the most useful (Milton, 2009); ‘front-loading’ a large number of the most frequent words would be very beneficial to a language acquisition program and no drawbacks have been established (Moore, 1996). The most frequent words are functional and create grammatical constructions (Milton,

2009). Subjective assessments of the ‘usefulness’ of lexical items has historically displaced word frequency counts (Zimmerman, 1997).

Zipf’s law dictates that word frequency occurs on a predictable curve where the most frequent word is twice as common as the next most frequent word¹²; word rank is inversely proportional to frequency (Milton, 2009). The crux of Zipf’s law is, “It means a small number of words tend to make up a very large portion of any normal text.” (Milton, 2009, p. 46).

Lewis (1993) states, the first 10 most common words are 17% of a text (as cited in O’Dell, 1997). The 100 most frequent words can be up to 50% of a text (Moore, 1996). The 2,000 most frequent words of English make up about 80%¹³ of the language. The 2,000-4,000 most frequent words are 8% of the occurrences (Milton, 2009). The 6,000 most frequent words¹⁴ are about 95% of the language (ibid). The average speaker has 60,000¹⁵ words in their lexicon (Fromkin, 2000).¹⁶

¹² This ratio does not apply to all corpora.

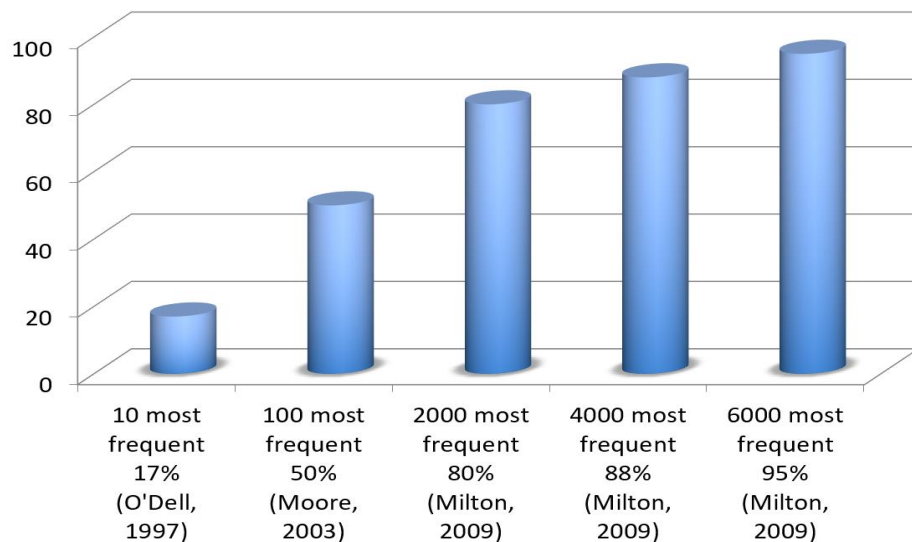
¹³ Nation and Newton (1997) state the most frequent 2000 words are 85% of a text and a higher percent of spoken language. Multiple studies suggest that West’s General Service list from 1953 still provides fairly thorough coverage and that in English the first 1,000 word families comprises between 73% and 85% of texts in five respective studies (Nation & Waring, 1997).

¹⁴ Nation and Waring (1997) state, a 3,000 word vocabulary would cover 95% of words in ‘a text’. Nation and Waring (1997) also cite figures from Francis and Kucera (1982), that puts 95% of the Brown corpus at well over 6,000 words (6,000 words make up just under 90% of the corpus).

¹⁵ For more perspective *Webster’s Third* has 54,000 *word-families* (Nation and Waring, 1997).

¹⁶ Alternatively, Francis and Kucera (1982) list the following figures for ranked word order distribution: first 1,000 words -72%, 2,000- 79.7%, 3,000- 84%, 4,000-86.85%, 5,000- 88.7%, 6,000- 89.9%, 15,851- 97.8% (as cited by Nation & Waring 1997). Though these figures still roughly track Zipf’s law.

Word Frequency Rank & Distribution in Language



Corpora provide not only frequency for vocabulary but collocation for those words.

Collocations provide syntagmatic data¹⁷ (Nation & Newton, 1997), verb and adjective collocations with ‘content nouns’ (O’Dell, 1997). The more common the collocation, the more useful the phrase; Sorting phrases and planning lessons based on collocation is a superior strategy to guessing which phrases an L2 acquirer needs to know and in which order they should acquire them.

However, choosing a corpus poses problems. With quantitative comparison cross-linguistically there are issues. A set of words in one language, will not necessarily have the same degree of usefulness in another language (Moore, 1996). Frequencies for grammatical words

¹⁷ Stock phrases and common, collocations, develop into idiomatic speech (Ellis, 1996).

differ cross-linguistically¹⁸ (Milton, 2009; Zimmerman, 1997). Using a *spoken corpus* for your target language¹⁹, dialect and register will alleviate these problems²⁰.

2.) Phonological Word Lists

In addition to other rehearsal strategies, this frequency determined L2 vocabulary, uses small, alliterated or otherwise phonologically or morphologically related word lists, instead of semantic or topic-based sets. Learning semantically related items together is harder than ones that are not related (Nation & Newton, 1997; Schmidt & Watanabe, 2001; Tinkham, 1993; Waring, 1998, Sneider et al 1998); Folse (2004), also found that semantic sets created confusion (as cited by Hulstijn, 2003; as cited by Schmidt & Watanabe, 2001).

Word association tests show semantic relations in the L1 and phonological associations in the L2 (Gass et al, 2013). The phonological map in SLA has been found in native-English-speakers trying to acquire an L2 (Schmidt & Watanabe, 2001). In the L2: associative value as well as phonological similarity, makes word acquisition easier; phonological similarity also improves vocabulary retention (Hulstijn, 2003). Nation and Waring state, “It is easier to learn another related meaning of a known word than to learn another word...” (1997, p. 19). This may be more evidence of strong phonological networks²¹ in the L2.

¹⁸ Word frequencies for some of the most common word such as articles and prepositions can have different frequencies cross-linguistically (Milton, 2009).

¹⁹ Rather than try to gloss the native language.

²⁰ Further research comparing spoken corpora and word frequency to current vocabulary ordering in instructed SLA programs would be useful.

²¹Henderson, Weighall, Brown and Gaskell (2013) used pause-detection-latency to measure word recognition in children and adults. Findings were similar for both age groups (2013). The studies show context affects lexical acquisition. Precision in the mental lexicon seems to be more limited (loose specification) in children. The pause detection paradigm was found to be faster with words that have earlier phonological uniqueness points. Homonym priming has been used to show that inappropriate references (semantically, not phonologically) did not cause the same kind of response as the semantically related word (ibid).

Hulstijn (1997) recommends 1) forming an association with a true cognate; 2) decomposing the word morphologically; 3) forming association with rhyming or similar sounding word. Three experiments done by Lindstromberg and Boers (2008), showed that *alliterated chunks of words had a good degree of mnemonic potential* (as cited by Laufer, 2009). This proven strategy is hardly ever utilized in formal acquisition.

Another problem with semantic or topic-based vocabulary sets, is illustrated by the second most common noun in English: ‘way’. ‘Way’ cannot be utilized in a topic-based syllabus like ‘dog’ or ‘car’ can (O’Dell, 1997). Temporal nouns, as well as delexicalized verbs, like ‘have’, ‘give’, and ‘take’ need to also be introduced early (O’Dell, 1997).

3.) Explicit Instruction

Explicit instruction is consistently shown to be important. Pseudo-immersion is avoided because it is not effective for L2 acquirers (Schmidt & Watanabe, 2001). Cody (2009) states, ‘immersion’ and incidental learning are often attempted. Although immersion is effective for (multiple) L1 acquisition, post critical-period acquisition²² is radically different; ‘mere exposure’ will not work (Hyltenstam & Abrahamsson, 2003).

The issue with conflating full immersion and partial, is that actual immersion does not occur in a class for a few hours per week (Spielman, 2015). Therefore, for L2 programs, explicit instruction in the students’ native language is encouraged (Atkinson, 1987). Instructions that have unfamiliar vocabulary can inhibit progress (Nation & Newton, 1997). Pseudo immersion, in

²² For further reading on L1 multiple language acquisition versus L2 child acquisition, as well as, the critical period and biological constraints see Gass et al (2013) or Doughty and Long (2003). According to Hyltenstam & Abrahamsson (2003), the critical-period for the L2 longer is than the L1.

the form of a monolingual dictionary, is not effective (Schmidt & Watanabe, 2001). L2 acquirers are often set back, rather than helped if the L2 is used more than is necessary.

Lexical meaning must be taught explicitly, despite phonology being acquired implicitly (Laufer, 2009); utilizing explicit instruction can double vocabulary retention rates (Laufer & Hulstijn, 2001). In addition, "...learners need to *intentionally* learn words in order not to forget them" (Hulstijn, 1997, p. 204).

Nation and Newton (1997) state, "...vocabulary that is useful and deserves attention can be pre-taught in lessons...glosses save time..." (p. 246). Novices especially benefit more from teacher-induced solutions (Hulstijn, 1997). Decomposing morphology is useful in SLA (Hulstijn, 1997). Testing for skills at regular intervals helps acquisition (Hulstijn, 1997).

Many teachers try to get students to infer words, rather than teach explicitly. Hulstijn (1992) could drive the misconception that inference drives vocabulary acquisition, as he concluded that retention was better for inferred words rather than given ones, *even though many guesses were wrong and retention rates were low* (as cited in Laufer, 2009). Although, negotiation for meaning appears to foster vocabulary growth (Laufer & Hulstijn, 2001).

More support for explicit instruction comes from Paribakht and Wesche (1997), who found that significant gains were created by 'reading with other vocabulary exercises'. Multiple studies (Lupescu & Day, 1993; Knight, 1994; Hulstijn, 1992), found that there was better retention of new vocabulary among students (for word meaning, derived from context) when a reading task was supplemented²³ (as cited by Laufer, 2009). Hulstijn states, "Embedding in a *meaningful context* alone is not enough for successful retrieval of the word's meaning..." (1997,

²³ The first two studies used a dictionary and Hulstijn's reading task test compared a multiple-choice test favorably, to showing synonyms.

p. 218). Brown, Waring and Donkaewbua (2008) compared listening, reading, and reading with listening. 'Listening alone'²⁴ created the lowest level of word acquisition (as cited by Laufer, 2009). Waring and Takaki (2003) also showed retention of novel-words were extremely low three months later, even after repeated exposure (8 times or more) (as cited by Laufer, 2009). Acquiring vocabulary from context, is not an effective way to learn (Laufer, 2009; Schmidt & Watanabe, 2001). Nation and Waring (1997) state that although learning from context is important, for rapid vocabulary expansion it is not sufficient.

Supplementing reading with other tasks and explicit instruction is much more effective than reading or listening alone. Laufer (2003) showed word focused tasks caused more vocabulary learning than reading. Repetition *in a meaningful context* improves vocabulary retention and repeated exposure is more important than 'involvement load' (Laufer 2009).

Zahar, Cobb and Spada (2001) found damning evidence against the hypothesis of Krashen (1989); mathematically determining, that learning 2,000 words from reading alone, would take 29 years (as cited by Laufer, 2009).

It takes a learner knowledge of 95% of the words to cause vocabulary learning from reading²⁵ (Laufer, 2009; Nation & Waring 1997). This is strong evidence against vocabulary acquisition through reading or listening to words in a language you do not understand. For example, in English, knowing 95% of the words typically means knowing the most common

²⁴ Even in the L1 these effects are shown: Ellis (1989) recorded a 25% increase in word retention for eight-year old's who were learning incidentally by listening to stories and repeating words, *if the words were explained* (as cited by Nation & Newton, 1997). Nagy et al (1985) determined that the probability of learning even *one* L1 form from *one exposure* was around 10-15 % (as cited in Laufer, 2009).

²⁵ Hu and Nation's (2000) of the words should already be known, for optimal coverage lexically (in the context of reading) (as cited by Laufer 2009).

6,000 words (Milton, 2009)²⁶. These figures suggest, learning gaps are exacerbated, in classrooms where students are expected to learn from context: students with more limited vocabulary are even more prone to falling behind. If knowledge of *the most frequent 6,000 vocabulary words*²⁷ were an attainable goal for an advanced L2 learner, one arguably *accelerates progress greatly*, by acquiring *these specific most frequent 6,000 words*, as the L2 acquirer now *actually* continually acquires from context.

Nation and Waring state, “There is no research that shows that learning from context provides better results than learning from word cards...” (1997, p. 12). Nation and Waring state word cards are especially effective at beginning stages of the L2 (ibid). Qian (1996) found that decontextualized word lists created better retention than contextualized vocabulary (as cited by Laufer, 2009). Nation and Waring are also proponents of formal study of, “...words, collocate, associations, different, meanings and grammar” (1997, p. 13).

There are many reasons attempting ‘immersion’ in class is problematic. Typological distance affects the amount of information gathered in L2 (Wesche & Paribakht, 2010). Koda states, “...word recognition, sentence parsing, and discourse processing differ systematically across languages” (as quoted Wesche & Paribakht, 2010, p. 33). Koda states that learners get even less information from hearing an L2 word than they would in their L1 (ibid).²⁸

²⁶ Many adult L2 learners of English know fewer than 5,000 word families, even after studying for several years (Nation & Waring, 1997).

²⁷ The L2 acquirer, using a corpus as a resource, saves time by learning the more frequent words before the less frequent words. One wastes time by learning the less frequent words too soon.

²⁸ The typological profile of a language includes the lexical semantic profile. For instance, L1 speakers of Chinese have an easier time learning English motion verbs, than their Japanese counterparts because of the similarities between Chinese and English, in this regard (Wesche & Paribakht, 2010). It is not stated whether Mandarin, Cantonese or a regional language was used in the study. Or whether across Chinese languages this effect was proven. Wesche & Paribakht (2010) cite Yu (1996) study. Transfer of these semantic sub-features can also be affected by learners’ perception of the similarity of the languages. Cultural understanding also affects correct

Research on cross-linguistic-influence and teaching methodology, regarding vocabulary acquisition, could vastly improve students' performance and teachers' efficiency. Though it is well known that cross-linguistic-influence creates issues in initial development of lexical-inferences (Wesche & Paribakht, 2010); Spada and Lightbown (1993), as well as Bongaerts (1999), show that making cross-linguistic differences salient will help acquisition (Odlin, 2003); Which is further evidence for explicit instruction²⁹.

A direct and explicit approach can involve: word building, matching, semantic mapping and studying vocab in context (Nation & Newton, 1997). Laufer said, "...a growing number of empirical studies suggest that input together³⁰ with engaging word-focused activities and frequent rehearsals are likely to yield the best results" (2009). For L2 learners, articulatory rehearsal was determined to be more important for words with low semantic association value words than words with higher semantic value (Hulstijn, 2003). Hulstijn (2003), also notes that articulatory rehearsal is more important when the words cannot be associated with L1 words.

Step 4.) Mnemonics & Visuals

Simple visual and mnemonic techniques may be implemented to improve vocabulary retention in instructed SLA. Chun and Plass (1996) found that a definition, an example and a picture were more effective than the text alone (Laufer, 2009). Flipping an image upside-down creates a unique association with the word, rather than have the learner 'mediate' with the L1 representation, which they would otherwise default to (Hulstijn, 2003).

interpretation of inferred word meaning. Odlin states, that linguistic difference matters even more than cultural differences (Wesche & Paribakht 2010).

²⁹ In place of general advice, it is advised that teachers do research on students' specific native languages so that they may make the respective differences salient.

³⁰ For clarity's sake, input is a baseline. You cannot have any instructed SLA without input, it is the supplement and specifically which supplement that is important.

There is good evidence for mnemonic devices and specifically the keyword method being effective in acquiring new L2 vocabulary. Whenever possible mnemonic techniques should be used; learner generated mnemonics are useful (Laufer, 2009; Hulstijn, 1997).

Hulstijn instructs, for the keyword method to: 1.) Make images unique as you can; 2.) Use a different keyword for each word; 3.) Use a mediating sentence that code-switches and uses both the target word and the keyword; 4.) Use another L2 word as the keyword for priming effects (Hulstijn, 1997).

Levin et al. (1992), found that the keyword method compared favorably to the contextual condition in all four experiments conducted (as cited by Hulstijn, 1997). Teachers that speak the L1 of their students may offer L1 keywords for target word (Hulstijn, 1997). Hulstijn (1997) and Cohen (1987) have determined that mnemonic devices comparing an L2 with a semantically related L1 word, cause difficult words to be retained (as cited by Hulstijn, 2003); this of course would be impossible without explicit instruction. There are many advantages to using (visual) mnemonics in the course of explicitly instructed SLA.

Summary

Although more research is needed on vocabulary acquisition in a second language; much of the already attested research is not utilized. Inefficient and ineffective methods are used to teach language on a global scale. This paper is a literature review that combines existing research into a novel program supplement to maximize vocabulary acquisition in SLA. Linguistic research is directly addressed and it is encouraged to 1) utilize word frequency data 2) creating phonologically related word sets rather than semantic sets that 3) explained explicitly 4) and use mnemonic devices.

The strategies outlined may be more actively implemented to accelerate vocabulary acquisition and improve retention (in combination with any mutually inclusive rehearsal and exposure instructed SLA strategies). Further research that compares this research and others in SLA to widespread instructed SLA strategies³¹ could show quantitatively the level of inefficiency. Implementing the research would save educational institutions billions of dollars globally.

³¹ Although this research is difficult as classroom environments and other formal programs tend to be multimodal; the research is tedious as well as there exists a plethora of programs.

References

- Apple (n.d.). In *Merriam-Webster's collegiate dictionary*. Retrieved from <http://www.merriamwebster.com/dictionary>
- Atkinson, D. (1987). The mother tongue in the classroom: A neglected resource?. *ELT Journal*, Volume 41, Issue 4, 241–247. <https://doi.org/10.1093/elt/41.4.241>
- Bongaerts, T. (1999). Ultimate attainment in L2 pronunciation: the case of very advanced late L2 learners. In D. Birdsong (Ed.), *Second language acquisition and the critical period hypothesis*. Mahwah, NJ: Lawrence Erlbaum Associates.
- Brown, R., Waring, R., & Donkaewbua, S. (2008). Incidental vocabulary acquisition from reading, reading-while-listening, and listening. *Reading in a foreign language*, 20(2), 136–163.
- Chun, D. M., & Plass, J. (1996). Effects of multimedia annotations on vocabulary acquisition. *The Modern Language Journal*, 80(2), 183–198.
- Cody, J. (2009). Challenges facing beginning immersion teachers. ACIE Newsletter. Retrieved from carla.umn.edu/immersion/acie/vol13/no1/Bridge_nov_2009.pdf
- Cohen, A. D. (1987). The use of verbal and imagery mnemonics in second-language vocabulary learning. *Studies in Second Language Learning*, (9), 43-61.
- Cook, V. J. (1998). Relating SLA research to language teaching materials. *Canadian Journal of Applied Linguistics*, 1(1/2), 9-27.
- Doughty, C. J. (2003). Instructed SLA: constraints, compensation and enhancement. Doughty & Long (Eds.) *Handbook of second language acquisition* (pp. 256-310). Malden, Maryland: Blackwell Publishing.
- Dubin, F., & Olshtain, E. (1986). *Course design*. Cambridge, UK: Cambridge University Press.

- Elley, W. B. (1989). Vocabulary acquisition from listening to stories. *Reading Research Quarterly, 24*(2), 174–187.
- Ellis, N. (1996). Sequencing in SLA phonological memory, chunking, and points of order studies. *Second Language Acquisition, 18*(1). Retrieved from <http://journals.hil.unb.ca/index.php/CJAL/article/view/19807>
- Ellis, N., & Beaton, A. (1993a). Factors affecting the acquisition of foreign language vocabulary: Imagery keyword mediators. *Quarterly Journal of Experimental Psychology, 46a*, 533-558. (1993b). Factors affecting the acquisition of foreign language vocabulary: Psycholinguistics determinants. *Language Learning 43*, 559-617.
- Folse, K. (2004). *Vocabulary myths: Applying second language research to classroom teaching*. Ann Arbor: University of Michigan Press.
- Fromkin, V. (2000). *Linguistics*. Oxford, UK: Blackwell.
- Gass, S., Behney, J., & Plonsky, L. (2013). *Second language acquisition: An introductory course* (4th ed.). New York: Routledge Taylor & Francis Group.
- Henderson, L., Weighall, A., Brown, H., & Gaskell, G. (2013). Online lexical competition during spoken word recognition and word learning in children and adults. *Child Development, 84*(5), 1668–1685. Retrieved from <http://onlinelibrary.wiley.com/doi/10.1111/cdev.12067/full>
- Hseuh-Chao, M., & Nation, P. (2000). Unknown vocabulary density and reading comprehension. *Reading in a Foreign Language, 13*(1), 403–430.
- Hulstijn, J. (1992). Retention of inferred and given word meanings: Experiments in incidental vocabulary learning'. Arnaud & Bejoint (Eds.), *Vocabulary and applied linguistics*. London: Macmillan.

- Hulstijn, J. (1997). *Mnemonic Methods in foreign language vocabulary learning*. Coady & Huckin (Eds.), *Second language vocabulary acquisition* (pp. 203-224). UK: Cambridge University Press.
- Hulstijn, J. (2003). *Incidental and intentional learning*. Doughty & Long (Eds.). *Handbook of second language acquisition*. Maryland: Blackwell Publishing.
- Hyltenstam, K., & Abrahamsson, N. (2003). Maturational constraints in SLA. In Doughty & Long (Eds.). *Handbook of second language acquisition* (pp. 539-588). Maryland, USA: Blackwell Publishing.
- Krashen, S. (1985). *The input hypothesis: Issues and implications*. Oxford, UK: Pergamon.
- Krashen, S. (1989). We acquire vocabulary and spelling by reading: Additional evidence for the input hypothesis. *Modern Language Journal*, 73, 440-464.
- Laufer, B. (2003). Vocabulary acquisition in a second language: Do learners really acquire most vocabulary by reading? *The Canadian Modern Language Review*, 59(4), 565–585.
- Laufer, B. (2009). Second language vocabulary acquisition from language input and from form focused activities. University of Haifa, Israel. Retrieved from <http://www.finchpark.com/.courses/grad-dissert/articles/vocabulary/ff-vocab-acquisition.pdf>Relating
- Laufer, B., & Hulstijn, J. (2001). Incidental vocabulary acquisition in a second language: The construct of task-induced involvement. *Applied Linguistics*. American Association of Applied Ling. Retrieved from <http://www.corpus4u.org/forum/upload/forum/2005112217011578.pdf>
- Lewis, M. (1993). *The lexical approach*. London, England: Language Teaching Publications.
- Lindstromberg, S., & Boers, F. (2008). The mnemonic effect of noticing alliteration in lexical

- chunks. *Applied Linguistics*, 29(2), 200–222.
- Long, M. H. (2003). Stabilization and fossilization. Doughty & Long (Eds.) *Handbook of second language acquisition* (pp. 487-536). Malden, Maryland: Blackwell Publishing.
- Luppescu, S., & Day, R. R. (1993), Reading, Dictionaries, and Vocabulary Learning. *Language Learning*, 43: 263-279. doi:10.1111/j.1467-1770.1992.tb00717.x
- Milton, J. (2009). *Measuring second language vocabulary acquisition*. Bristol, UK: Multilingual Matters.
- Moore, Z. (1996). *Foreign Language teacher education: Multiple perspectives*. Maryland, USA: University Press of America.
- Nagy, W. E., Herman, P. A., & Anderson, R. C. (1985). Learning words from context. *Reading Research Quarterly*, 20(2), 233–253.
- Nation, P., & Newton, J. (1997). Teaching vocabulary. Coady & Huckin (Eds.), *Second language vocabulary acquisition* (pp. 238-254). UK: Cambridge University Press.
- O'Dell, F. (1997). Incorporating vocabulary into the syllabus. Schmitt & McCarthy (Eds.), *Vocabulary; description, acquisition, pedagogy* (pp. 258-278). UK: Cambridge University Press.
- Odlin, T. (2003). Cross linguistic influence. Doughty and Long (Eds.), *Handbook of second language acquisition* (pp. 436-486). Malden, Maryland, USA: Blackwell Publishing.
- Oxford. (2017). Yerkes–Dodson law. Retrieved from <https://www.oxfordreference.com/view/10.1093/oi/authority.20110803125332105>
- Paribakht, T. S., & Wesche, M. (1997). Vocabulary enhancement activities and reading for meaning in second language vocabulary. Coady & Huckin (Eds.). *Second language vocabulary acquisition: A rationale for pedagogy* (pp.174-200). Cambridge, UK: Cambridge University Press.

- Schmidt, R. (2010). Attention, awareness, and individual differences in language learning. Chan, Chi, Cin, Istanto, Nagami, Sew, Suthiwan, & Walker. *Proceedings of CLaSIC 2010*, 721-737. Singapore: National University of Singapore, Centre for Language Studies.
- Schmidt, R., & Watanabe, Y. (2001). Motivation, strategy use, and pedagogical preferences in foreign language learning. Dornyei & Schmidt (Eds.), *Motivational and second language acquisition*. Hawai'i: University of Hawai'i Press.
- Schneider, V. I., Healy, A. F., & Bourne, L. E. (1998). Contextual interference effects in foreign language vocabulary acquisition and retention. In A. F. Healy & L. E. Bourne, Jr. (Eds.), *Foreign language learning: Psycholinguistic studies on training and retention* (pp. 77-90). Mahwah, NJ, US: Lawrence Erlbaum Associates Publishers.
- Spada, N., & Lightbown, P. (1993). Instruction and the development of questions in the L2 classroom. *Studies in second language acquisition*, 15(2), 205-224.
- Spielman, G. (2015). Strategies for Cultural and Linguistic Survival. Georgetown. Retrieved from http://faculty.georgetown.edu/spielmag/docs/Immersion_E.htm
- Tinkham, T. (1993). The effect of semantic clustering on the learning of second language vocabulary. *System*, 21, 371-380.
- Twaddell, F. (1980). Vocabulary expansion in the TESOL classroom. In Croft (Ed.), *Readings on English as a second language*. Cambridge, UK: Cambridge University Press.
- Waring, R. (1998). The negative effects of learning words in semantic sets: a replication. *System*, 25, 261-74.
- Waring, R., & Takaki, M. (2003). At what rate do learners learn and retain new vocabulary from reading a graded reader? *Reading in a Foreign Language*, 15(2), 130-163.
- Wesche, M. B., & Paribakht, T. S. (2010). Lexical inferencing in a first and second language.

Dublin: Multilingual Matters.

Wolfe, C. D., & Belle, M. A. (2007). Sources of variability in working memory in early childhood: A consideration of age, temperament, language, and brain electrical activity. *Cognitive Development* 22, 431–455.

Zahar, R., Cobb, T., & Spada, N. (2001). Acquiring vocabulary through reading: Effects of frequency and contextual richness. *The Canadian Modern Language Review*, 57(4), 541–572.

Zimmerman, C. B. (1997). Historical trends in second language. Coady & Huckin (Eds.), *Second language vocabulary acquisition* (pp. 5-20) UK: Cambridge University Press.