Mnemonic Devices for L2 Acquisition of Korean

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Introduction

Learning a second language (L2) is something most of us have experienced, receiving input and attempting to produce output in written and oral forms. It is quite well-known that adults have a hard time learning a new language because matured brains lack the neural plasticity of a child’s brain to learn to speak without an accent, store words in long-term memory and adjust to different grammar rules and structures.

An adult L2 learner looks up L2 words in a dictionary, writes them down, yet often forgets the meaning upon future encounters with the word. Worse yet, when L2 involves foreign alphabets and characters, the adult L2 learner may fail to recognize the written word or forget how to write it, let alone recall its meaning. The older we get, the harder it becomes to learn a second language; it may benefit an older learner to associate target L2 words with some mnemonic to remember them.

This paper focuses on mnemonic techniques for improving initial learning, recognition and recall (encoding, storage and retrieval) of L2 vocabulary as an adult. Several types of mnemonics are surveyed, with a focus on questioning the merits of combining vocabulary to be learned (target vocabulary herein) with carefully designed iconic representations. Also discussed are several mnemonic-based curriculum ideas which may reduce cognitive load and increasing learning motivation and retention.

Literature Review

Bruner, 1964 classified how humans come to know the world into three categories: enactive, iconic, and symbolic. Humans can represent learning through motor responses, through organized visuals such as diagrams, or through symbolic systems like language or
mathematics (Driscoll, 2005). This is just one perspective on human learning, and certainly not comprehensive (e.g. it does not explain how a mother tongue is learned). Bruner’s contemporary Ausubel, a schema theorist, focused on how learned information is structured and stored in the brain. He introduced the concept of ‘anchoring ideas’, or existing knowledge which allows for new concepts to be learned in a meaningful way (Driscoll, 2005). The following decade, Gagne classified learning based on desired learning outcomes and their corresponding conditions for success. Gagne’s theory framed Bruner’s modes of representation as such outcomes, and fellow schema theorist and co-author Driscoll echoed Ausubel’s anchoring ideas: “To be meaningful, new information must be related in some way to what learners already know.” (Driscoll, 2005, p. 366). Driscoll goes on to highlight external conditions for successful learning of verbal information, including chunking to prevent cognitive overload and the use of imagery and mnemonics to improve retention.

A symbolic representation of a word usually connotes the word written in its native language, but can also refer to the transliteration of the word to the learner’s native language. The latter, while important to beginner L2 learners, will not be discussed due to space limitations. An iconic representation of a word can be picture of it, or a creatively and intentionally-constructed version of its symbolic representation, such as writing the word ‘big’ in large font; but what about a noun such as ‘house’?

Humans have been using mnemonic devices for ages, but apparently, the scientific study of mnemonics only began in the 1960s (Belezza, 1981).

Atkinson, 1975, dubbed the keyword method and Hulstijn, 1997 eloquently describes it as consisting of three stages: First a to-be-learned(target) word is chosen if it resembles a known
word in the native or target language, in sound and/or spelling. Next, a strong association is made between the target word and the keyword, either in a pun or funny sentence or two. This must be salient enough that upon hearing the target word, the learner recalls the mnemonic sentence. Finally, a visual image combines the keyword and the target word, in a memorable fashion to increase recall/recognition. Hulstijn offers the following example:

An English learner of German, trying to remember the meaning of Raupe (“caterpillar”) could associate Raupe with the English word rope (sound similarity), and construct a mental image representing a caterpillar stretched out in more than its fullest length (exaggeration helps!) on a rope. (p. 205)

The Korean word for house is 집, pronounced ‘jeeb’. Applying the keyword technique to the word 집, imagine someone who lives in their jeep (constructing a tent in the back, etc.) We have now a known word in the native English, an association with the target word 집 and a visual image. Hulstijn found that the keyword method plays a facilitating role in building a mental lexicon in a foreign language, and Atkinson’s 1975 work showed that while students thought nouns were the easiest to learn, then verbs, and worst for adjectives, tests showed equal performance on nouns and verbs. An alternative approach is offered here, which does not require all three stages to be present to construct the mnemonic and may work equally well for adjectives.

**Examples of English Keywords for Korean L2 Learners**

있다, is pronounced ‘eed da’, means presence, and is conjugated as 있어요 to mean ‘there is’, transliterated as “eessoyo”. Applying the keyword method, an English keyword with similar meaning that sounds similar is needed. Personally, ‘eessoyo’ sounds like ‘is’, and I
thought of ‘there IENT’ 槭고요, pronounced ‘obsoyo’ means absence. A keyword here could be
‘obsolete’ which is close in meaning to absence. 불어오다 means ‘blow in’ as in the wind is
blowing. 불어 sounds similar to blow. 유별나다 means ‘unusual’, and the beginning of the
word, 유별 sounds like ‘usual’. 유별나다 sounds like “usual not a” which makes me think of
‘un유별’. So I remember this word by combining Korean and English to form ‘un유별’.

귀여워, transliterated as ‘gwiyeowoyo’ sounds a bit like its meaning, ‘cute’. 섭섭하다
means ‘to feel disappointed. 섭 sounds like ‘sob’ which is an easy way to remember this word.

In the above examples, a visual does not seem to be required to create a mnemonic.

**Korean Vocabulary Mnemonic Pictures**

Alternatively, pictures based on a word’s symbolic representation can act as mnemonic
devices, without the need for a keyword. While I was studying Korean in 2010, my very first
vocabulary picture idea occurred; the idea was for 물, pronounced ‘mool’, meaning ‘water’. As I
wrote this word, I suddenly thought of the □ as the mouth of a square faucet, and the T and ᄆ
as water flowing out of it (see Appendix A). Such a drawing is a visual mnemonic.

From my experience, the key to an memorable word-picture seems to be to use as many
of the lines and curves of the word’s characters/letters as possible to present its meaning
iconically. I propose that using the lines and curves of the characters of the word to depict
quintessential properties, examples, elements, associations which evoke its meaning is the most
effective way to create the word’s iconic representation (visual mnemonic). Memorability, or
successful retention and recall ability is a key goal when creating such pictures; the goal is to
connect as strongly as possible the particular lines and curves of the letters or characters used to
write the word with its meaning.
양복 means suit in Korean. A slow and careful meditation on the word led to seeing ‘양’ as two suit jacket buttons, the jacket edge, and part of a tie clip. The second syllable ‘복’ looks like the jacket pocket, jacket hem, and pant pocket (see Appendix A). This mnemonic sketch exemplifies the aforementioned technique of using the lines and curves of the Korean characters to illustrate the meaning of the word.

During several years of development, I have sketched minimal monochromatic, color, and full-fledged artistic versions of the Korean mnemonic pictures (in collaboration with art majors). Some learners may be drawn to and engage more in one or another of these styles, or perhaps adding more artistic details takes away from the mnemonic effect of the idea, adding more cognitive load during the initial learning phase (see Appendix B for such versions of the Korean word 등산 which means hiking or mountain climbing).

While it may be more subjective, sometimes a strange or funny depiction seems more salient. Also, if learners can relate to the culture or humor in a mnemonic picture, they are more likely to retain it. Several samples of more unique Korean vocabulary sketches, and some with dialogue can be found in Appendix C. Due to space limitations, I will just briefly mention Chineasy, which is a method of learning Chinese through mnemonic pictures, albeit without the strict focus on using the lines to create meaning. A book titled Chineasy has been published and is available for sale worldwide.

A Korean ←→ English Sentence Mapping Application

A supplement to these mnemonic pictures has been developed for intermediate-level learners, with a focus on reducing cognitive load rather than mnemonics. Unlike beginners who focus on vocabulary, intermediate learners can encode L2 at the sentence level. Korean word
order is Subject-Object-Verb (SOV) as opposed to English which is Subject-Verb-Object (SVO). While children may make this transition with ease, adult learners of Korean require much more practice and conscious effort to overcome lack of neural plasticity and make sense of a sentence with unfamiliar part of speech order, or form such an SOV sentence on the fly.

Use case: An intermediate-level sentence is written in Korean using beginner-level learned vocabulary and grammar structures. A learner looks at the sentence, and completes the mental gymnastics required to encode it by translating it to their native tongue. Cognitive overload is likely, and may be reduced with the following iconic visual aids. On click, the English translation of the sentence appear above or below, with lines connecting words or parts of words. Learners can see the mapping of each part of the sentence instead of juggling all this information mentally. Such an application could also quiz learners by having them drawing the lines themselves, i.e. matching the Korean and equivalent English words by dragging to draw lines or by successive clicks on a word and its equivalent in L2 (See Appendix D for 2 screenshots of these Korean and English sentences with word and parts of speech mappings).

Placement and Integration of Information

While the idea of combining iconic and symbolic representation does not seem to well-practiced, these representations are often linked in instructional materials; just think of a textbook with images or a product assembly manual with diagrams. Sometimes there are "disparate but mutually referring sources of information" to integrate (Purnell et. al. 1992), for example a word written in Korean, its English translation, the word used in a sentence, and perhaps a picture of the meaning. If they are separated, it "requires cognitive resources and distracts attention from essential aspects of the task"(p.445). Teachers and learning designers can
spare their students the unnecessary integration; "equations can be placed directly on relevant sections of a diagram rather than adjacent to it." Purnell et. al. found that "such a format resulted in substantial benefits to learning.” They explain that “split attention effect is likely under such circumstances and that it could be eliminated by integration of text and diagrams" (p.445). While research remains sparse, it is hypothesized that a similar integration of words in a foreign language and a visual representation of their meaning could prevent this split attention and reduce the resulting cognitive load. A Purnell-style approach is offered forthwith.

**SAT Word Schema Charts**

Learning a bunch of vocabulary words quickly is extremely useful not only to L2 learners, but also high schoolers preparing for the SATs. A creative and meaningful integration of SAT vocabulary synonyms, antonyms and related verbs illustrates how (with a little planning and knowledge of schema theory) instructional designers can greatly reduce the cognitive load which hampers learning. First, SAT vocabulary words were grouped by meaning and abstract categories such as amount-related words, or control vs freedom. Words in the left column are related to a lack, words on the right are synonymous with abundance, and verbs are placed in left or right-pointing arrows depending on whether they connote a decrease or increase in the abstract category, respectively (see Appendix E). It could be argued that an existing schema is being enriched, or as Merrill, 2002 writes "Learning is promoted when existing knowledge is activated as a foundation for new knowledge" (p. 44-5). While this approach might appear rooted in CIP learning strategy, it is also employing schema theory in that new vocabulary is being learned in the context of the known concept schema, such as “amount, gain, and loss”. Further, perhaps the schema of ‘peace of mind’ (see the last chart in Appendix E) was “wired in” to a learner’s brain, but they had not thought of certain verbs as increasing or decreasing peace of mind.
Cognitivists focus on changing the learner by encouraging the use of personally useful learning strategies. Ertmer & Newby, 2013 explain that:

…memory is given a prominent role in the learning process. Learning results when information is stored in memory in an organized, meaningful manner. Teachers/designers are responsible for assisting learners in organizing that information in some optimal way. Designers use techniques such as advance organizers, analogies, hierarchical relationships, and matrices to help learners relate new information (p.52)

Ertmer and Newby write that “Instruction must be based on a student’s existing mental structures, or schema, to be effective”. In one of their earlier works, Ertmer and Newby, 1996 introduce the concept of expert learners, who, as they learn, “use their metacognitive knowledge of cognitive, motivational, and/or environmental strategies to choose those strategies which are most appropriate for a given learning task” (p. 10). This means an awareness of their own personal quirks, preferences, strength and weaknesses to maximize enduring learning gains.

**Implications for further research**

The potency of the ideas proposed here needs to be proven before they can be deemed ‘curriculum’. At the time of this writing, these Korean vocabulary mnemonic products and allegedly Chineasy have not been evaluated in any kind of rigorous way with a control group, statistics, and peer review, and thus remain unproven approaches. Further study on the effectiveness of such mnemonic vocabulary pictures would benefit the field of instructional design. Many questions remain unanswered:

1. How subjective are such pictures? Can they benefit a learner who did not conceive them?

   How much more effective are self-generated mnemonics? Bellezza, 1981 calls this “induced
versus imposed mnemonic structures” and cites multiple sources which found that it is better for learners to provide their own mnemonics than to be presented with them. Kuo and Hooper, 2004 researched how high school students learn Chinese vocabulary through visual, verbal, self-generated or other mnemonics. They found that “participants who generated their own mnemonics demonstrated higher posttest performance than those in visual coding, verbal coding, and translation groups…” and that “Those who generated their own mnemonics spent more time on task than any other group” (p. 31). Citing Wang and Thomas (1992) they also found that “long-term forgetting of experimenter-provided coding was greater than that of subject-generated coding, suggesting even greater benefits for self-generation treatments over time.” (p. 32). Additional research would elucidate the utility of these mnemonic pictures to L2 learners who did not create them.

2. How do the minimal vs. artistic versions compare in aiding encoding, storage and retrieval? Does the art help motivate the learner initially? Is the art a distraction and/or cause cognitive overload during the initial learning phase? Are the minimal versions easier to recall/retrieve? How does Chineasy compare to this method?

3. What about multimedia? Rowe, 2013 reviewed literature which suggests pictures are useful in teaching vocabulary to ESL children, and that children who watched short video supplements to teacher-led instruction of words in the context of storybooks made greater gains in their vocabulary than their control group counterparts. The addition of video closed the gap between ELLs and non-ELLs in knowledge of words targeted during the lesson, and narrowed the gap in general vocabulary knowledge. It would be interesting to create animated mnemonic pictures, perhaps with the overlaid Korean characters fading in and out, or simply using movement for the sake of engagement and retention.
Conclusion

From an instructional design perspective, creating and/or incorporating such mnemonics into instructional materials has several merits, albeit some of which are (still) unproven. Engagement in the initial learning process is usually enhanced by visuals. Retention may be also enhanced if such images have mnemonic value, i.e. “speak to” the learner; this mnemonic value or potency is subjective and may not increase learning gains for all learners.

Combining target vocabulary with iconic representations of its meaning may aid learners in one of more of the following: motivation, initial learning rate, recognition and recall. This approach may be used to improve the effectiveness of learning vocabulary in a foreign language by making the learning of words in that language easy, fun and memorable. I expect the visual mnemonics to be more self-explanatory and accessible to learners through independent study.

A high level of self-awareness was the catalyst for me to create these mnemonic devices. Without knowing the name for what I was doing (metacognition), I was mindful of my particular retention strengths and weaknesses, intentionally linking words with their meaning in these personally memorable ways. This awareness and evaluation of the effectiveness of one’s approach to learning is what grants the power to improve it.
References


Merrill, M. D. (2002). First Principles of Instruction (p. 43-59) Educational Technology, Research and Development; 2002; 50, 3; ProQuest Research Library


Appendix A: 물 water, and 양복 suit
Appendix B: Vario iconic depictions of 등산 hiking/mountain climbing
Appendix C: More Korean Vocabulary Mnemonic Pictures

슬퍼 Sad

여행 trip
열 fever, 약 medicine

새우 shrimp
택배 delivery, 소포 package

세수 wash one’s face
붓 brush
Appendix D: Mnemonic Pictures Combined with Sentence Mapping

I have to wear a suit every day.

매일 양복을 입어야 해요.
Ordering food for *delivery* can also be bad for your health.

배달 음식을 주문해도 건강에 좋지 않을 수 있어요.
Appendix E: SAT Vocabulary Schemata

Below are some more SAT vocabulary charts based on word schemas. These schemas, such as ‘amount’ or ‘freedom’ likely exist in the learner’s brain, perhaps subconsciously.
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<thead>
<tr>
<th><strong>FREEDOM</strong></th>
<th><strong>PEACE OF MIND</strong></th>
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<tbody>
<tr>
<td>control, tyranny</td>
<td>annoyed, vexed</td>
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<td>authoritarian</td>
<td>dissonance</td>
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<td>belligerent</td>
<td>querulous</td>
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<td>culpable</td>
<td>cacophony</td>
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