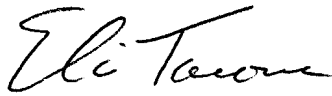


Studying Hanja-Based Syllables Improves Korean Vocabulary Retention

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Abstract

Half of Korean vocabulary consists of Sino-Korean words, or words that originated with Chinese characters, which are referred to as *hanja* in the Korean context. Each hanja-based syllable of a Sino-Korean word has a fixed semantic meaning, but given the large number of homophonous syllables, the definitions of individual syllables are not readily transparent to most learners without direct instruction. This pilot study investigates the benefits of teaching non-Sinosphere Korean second language learners the sound-to-meaning relationship of individual hanja-based syllables, e.g., teaching students that the hanja syllable su/수 is the phonetic pronunciation of the hanja for water. Over the course of a semester, learners were taught the definitions of hanja-based syllables found in course readings. At the end of the semester, students were assessed on their ability to memorize and recall a short set of words, half of which contained hanja-based syllables taught in class. On average, students correctly recalled more words if they contained a hanja syllable taught in class. This study provides evidence that teaching the meaning of hanja syllables can help students retain new vocabulary over a short period of time and raises the possibility that hanja syllables should be included in Korean vocabulary education.

Introduction

When I was learning Korean, as I progressed beyond the beginner level and started reaching intermediate levels of proficiency, I found myself growing increasingly frustrated that vocabulary acquisition seemed to be getting more difficult as time progressed, rather than easier. The Korean language seemed to be filled with words that were highly specific such as *twae-geun/퇴근*¹, which means “leaving the office to go home”, *gwa-eum/과음*, which means “to drink too much alcohol”, or *jung-go/중고*, a word that describes used or pre-owned products such as a used car. In the other languages I had learned, I could talk about most of these concepts using simpler words I already knew, rather than having to remember a whole new word, similar to the English compound word “bus stop”. In contrast, the Korean word for “bus stop” – *jeong-yu-jang/정류장* – does not contain a single root related to the everyday Korean word for “bus”, which is an English loan word pronounced *beu-su/버스*, nor does it contain any simple Korean word related to stop or place. Finally, it seemed like there were countless words that all shared the same syllable, even though the concepts they described had nothing in common. From my perspective, there must have been over a hundred words that started with the syllable *jeong/정* such as the word *jeong-bo/정보* which means “information” and the word *jeong-bu/정부* which means “government”. Some of these highly frequent syllables did have a somewhat transparent semantic or grammatical function: for example, the syllable *guk/국* appeared at the end of every country’s name so it clearly meant something like “country”. However, many of these syllables did not have a clear and obvious meaning and function. I had seen both of these features –

¹ In this paper, all Korean words will be Romanized using the Korean government’s revised Romanization system. While not required by this system of Romanization, I will also be separating syllable boundaries using dashes in order to make those boundaries clear since the semantic meaning of individual syllables is a critical component of this study.

homophones and highly specific terminology – in every language I had studied, and I think it is reasonable to assume that they can be found in all languages. But I could not shake the feeling that what I was encountering was something distinct to Korean. As I kept learning more vocabulary, I kept returning to the same few questions. Are the problems that I am having with vocabulary just a natural consequence of trying to learn a language unrelated to English, where I could not rely on the large number of cognates that I found in languages like Spanish and Icelandic? Or is there something about Korean vocabulary that is particularly difficult?

Later in my Korean education, I discovered that many of the words that I was struggling to acquire were in fact *Sino-Korean words*. Sino-Korean words are words that originated with Chinese characters and can be spoken or written using either Chinese characters or Korea's phonetic alphabet. For most of Korean history, Chinese characters were the only system for writing (Song, 2005). In the Korean context, a written Chinese character is called a *hanja*; for readers familiar with Japanese, this term is equivalent to the term *kanji*. *Hanja*² was the only writing system until the 15th century, when King Sejong created a phonetic alphabet specific to the phonology and morphology of Korean, an alphabet referred to as *hangeul*. Even after the creation of the *hangeul* alphabet, *hanja* was the primary writing system in use well into the 19th century: Korea's upper class initially rejected *hangeul* since knowledge of *hanja* was seen as an important marker of upper-class status (Song, 2005). As a result, *hanja* continued to be the dominant writing system, particularly in spheres such as government, academia, religion, law, and medicine.

² The term *hanja* can refer to either a specific character (e.g., the *hanja* for water) or to the system of using Chinese characters to write the Korean language. In this paper, I will occasionally say *hanja character* when I want to emphasize the written Chinese character for a certain word.

This long-standing use of hanja as a writing system left an enduring impact on Korean vocabulary. Besides its role as a writing system, hanja was also an important source by which a large number of new vocabulary words were either introduced or generated. New words or concepts were often created by combining two or more hanja together. For example, the Korean word for marriage (gyeol-hon/결혼) is built from two hanjas – the first corresponds to the hanja for “tie/knot” and the second for “marry”.

These new words did not just remain in writing but could then enter the spoken language. Each hanja has a phonetic pronunciation that is a single syllable, and most hanjas have only one pronunciation but a select few have two or more (Sohn, 2006). For example, the hanja 水³ means “water” and in Korean is pronounced su/수. As a result, su/수 is present in a wide range of two syllable words that were constructed using that hanja including the words for “swimming” (su-yeong/수영), “water pressure” (su-ab/수압), and “underwater” (su-jung/수중). For the purposes of this paper, I will hereafter refer to the phonetic pronunciation of a hanja character as a *hanja syllable*. The hanja syllable that is used to pronounce a hanja was often based on the Chinese pronunciation⁴ at the time the hanja character was introduced to Korean society and has no relation to the native Korean word that describes the equivalent concept (Sohn, 2006). To continue the previous example, the native Korean word for water is mul/물, not su/수. Whenever water is talked about as a stand-alone concept, the word mul/물 is used instead, such as if I wanted to ask for water in a restaurant. As a result, the syllable su/수 only appears as a piece in

³ In this paper, anything written using Korean letters will be accompanied with both a Romanized guide to pronunciation and an English translation. Anything that does not include Romanization can be assumed to be a Chinese character (hanja).

⁴ Amongst Korean language scholars, there is no consensus as to the exact origin of the Korean pronunciation of hanja characters, but most assume that it is based on late middle Chinese spoken in northern China in the 7th and 8th centuries (Sohn, 2006).

larger words that relate to water, such as the aforementioned words for swimming, water pressure, and underwater, and it never appears by itself to refer to water. As a result, Korean language learners almost never encounter these individual syllables as stand-alone words in everyday language use – they are only present in compounds. In this regard, hanja syllables have a presence in Korean that is similar to the presence of Latin and Greek roots in the English language. For example, the hanja syllable su/수 has a role similar to that of the Latin root “aqua”, which appears as a piece of many larger English words related to water such as “aquatics” or “aquarium” but is never used by itself to refer to water. It is also important to emphasize that most Sino-Korean words were made by combining two or more characters, so they can be broken and viewed through their component pieces. The previously mentioned word for “underwater” was originally composed of two hanjas that mean “water” and “middle”. To see some more examples of common hanja syllables and the words in which they appear, please consult Table 1 below. Table 1 also includes two definitions for the syllable geum/금 in order to demonstrate the semantic variety that can be shared by homophonous syllables.

Table 1: Hanja syllable examples

| Hanja Syllable | Meaning | Sample Words |
|----------------|-----------------------|--|
| Su/수 | Number | Su-hak/수학 “math” So-su/소수 “decimal” Bok-su/복수 “plural number” |
| Ban/반 | Opposite | Ban-dae/반대 “opposition” Ban-myeon/반면 “other side” Ban-eung/반응 “reaction” |
| Geum/금 | Gold, metal, money | Hyeon-geum/현금 “cash” Sae-geum/세금 “tax” Geum-bal/금발 “blond hair” Baeg-geum/백금 “platinum” |
| Geum/금 | Prohibit | Geum-yeon/금연 “no smoking” |

| | | |
|--|--|---|
| | | Geum-gi/금기 “taboo” Tong-geum/통금 “curfew” |
|--|--|---|

Many Korean words have their origin in Chinese characters. Such Sino-Korean words represent a huge portion of the Korean language: some linguists estimate that Sino-Korean vocabulary represents up to 54% of the Korean language (Song, 2005) and up to 70% of the words listed in Korean dictionaries are Sino-Korean (Jung & Cho, 2006). Since hanja were widely used in government, law, academia, medicine, and other related realms of high society, Sino-Korean words are particularly common in those realms. However, Sino-Korean words can be encountered frequently throughout everyday life in Korea. As a result, any Korean language learner, regardless of their goals as a learner, will come across hundreds of Sino-Korean words, and learning a large number of Sino-Korean words is essential for any learner hoping to progress beyond intermediate levels of proficiency (Jung & Cho, 2006). As previously mentioned, these were the words that gave me the most trouble as a learner due to several other important characteristics of Sino-Korean vocabulary that make them especially challenging, characteristics that I believe merit special attention in teaching pedagogy.

Modern Korean is written using the previously mentioned phonetic alphabet called hangeul. Most signs, texts, and written material that a Korean language learner or a Korean native speaker will encounter are written phonetically in hangeul without any hanja present. Hanjas are still used in limited amounts in a select number of contexts such as law and academia but they are almost never necessary for daily functioning: during my two years of living in Korea, I never needed hanja and only came across them in a handful of instances. Naturally, this is an advantage for anyone learning to read and write Korean, whether as a first or second language: saved from the burden of having to memorize thousands of hanjas, a Korean language

learner can learn to sight-read a hangeul text relatively quickly, even if they do not know the meaning of what they are reading. This does introduce a new challenge with regards to Sino-Korean vocabulary. When a text is written logographically in hanja, the semantic meaning of each syllable is transparent. However, when it is written phonetically in hangeul, the meaning of the syllable is not immediately obvious, due to another important characteristic of Sino-Korean vocabulary – the ubiquitous presence of homophones.

The phonetic pronunciation of a hanja in Korean is rarely unique to a single hanja, but can be shared with multiple, sometimes dozens, of completely different characters. The previously mentioned example of su/수 is not only the pronunciation for the hanja for water, but also for the hanjas for hand (手), protect (守), head (首), and number (數); in fact, *Chinese Characters in Korean*, a hanja dictionary designed for English-speaking Korean learners, lists 34 different hanjas that are all pronounced su/수⁵ (Whitlock, 2001). As a result, this syllable appears in well over a hundred words with a large variety of meanings.

The large number of homophones in Sino-Korean vocabulary is a direct consequence of the large numbers of homophones in Chinese. As was previously mentioned, the Korean phonetic pronunciation of hanja characters was based on the Chinese pronunciation at the time the character was introduced to Korean society. Even in those eras, Chinese syllables were highly homophonous. However, Chinese was (and is) able to distinguish many homophones through tonal variation. However, tones are not present in Korean pronunciation so this element that distinguish homophones is lost in Korean, thus compounding the problem and increasing the number of homophonous syllables.

⁵ It should be mentioned that not all syllables correspond to that many characters and the number of characters each syllable corresponds to varies considerably. The same dictionary only lists 8 characters that correspond to the syllable bo/보 and 6 characters that correspond to the syllable sik/식 (Whitlock, 2001).

When I was learning Korean, I never noticed that the hanja syllable su/수 as it appears in the word “swimming” means water because there were many other words in my day-to-day life that contained syllables that sounded the same and have nothing to do with water, such as the word su-hak/수학, which means “math”. Most importantly, none of the Korean textbooks I used such as *Integrated Korean* (Sohn & Lee, 2003) ever covered the meaning of individual hanja syllables. Instead, they presented complete compound words and their English translations without translating their component pieces. This was the origin of the problem I faced: every day, I encountered a large number of words that all sounded similar but were semantically distinct. These words often seemed highly specific and I was not sure why the same concepts could not be described using simpler terms. What I did not realize was that those words were in fact made from simpler terms, but the existence and the meaning of those simpler terms were not transparent to me.

I did not become aware of the presence of hanja syllables until I came across the textbook *Useful Chinese Characters for Learners of Korean* (Choi et al., 2015). The book included several hundred common hanjas, their phonetic pronunciations, how to write them, and lists of several common Korean words that contained those characters. Although I tried to do a handful of the exercises in the book to actually learn how to write the hanja, I quickly gave up since I realized I would never need to read or write them unless I specifically sought them out. Instead, what I found most useful about the textbook was learning the meaning of individual syllables, seeing how Korean vocabulary words could be broken down into smaller and simpler pieces, and being given examples of words that contained the same syllables. This gave me a couple of valuable tools: I could now break many of my vocabulary words down into their constituent pieces. It also gave me the ability to forge connections between words I already knew,

connections that I had not noticed before. Previously, I would often find that words that shared the same syllable would interfere with each other in my mental lexicon. Now I had a tool that helped me sort the words into groupings if they shared a common lexical root. If I came across a new word that contained a known hanja syllable, instead of having to create a whole unique entry in my mental lexicon, this new word became related to words I already knew.

I started incorporating hanja syllables into my Korean studies. I downloaded an English language hanja dictionary onto my phone and when I came across a new Sino-Korean word, if I was not able to recognize the hanja syllables in the word, I started to look them up and write them down. This, however, was a time-consuming process. In that process, I would often have to look up the hanjas that are used to spell the word, count how many strokes are in the word (hanja dictionaries are organized by the number of strokes in the character), and then go through the dictionary to find the exact same character. As a learner, I found myself wanting two resources. I wanted a textbook like *Useful Chinese Characters for Learners of Korean* that would cover an even larger number of important basic hanja syllables. I also wanted the study of hanja syllables to be more directly incorporated into mainstream Korean language education: I thought it would be useful if standard Korean textbooks included the constituent hanja syllables alongside vocabulary lists starting at higher proficiency levels. This would save the time and effort of having to cross reference every new word I came across. While looking up hanja syllables in dictionaries is time-consuming, studying them when presented in a list is not.

While I have found studying hanja syllables to be immensely helpful, I do not know if other learners will find the same benefit from them that I do. I am an analytical thinker who likes to find broader trends and patterns in anything that I learn, but others who use different approaches might not find hanja syllables as useful. The goal of the present study is to

investigate the impact of hanja syllable education on vocabulary retention in Korean second language (L2) learners and see if they derive benefits as I do.

Literature Review

The challenge that similar-sounding words can pose for learners of second languages other than Korean has been noted by SLA researchers. Laufer (1988) developed the concept of ‘synforms’ to describe words in a target language that share similar forms and/or sounds and may produce errors in learner language; these are words such as “except” and “excerpt”. Laufer conducted a study on a corpus of English learner language that included samples produced in both speaking and writing and identified errors that were made when a learner produced a word that was similar in form to the target word, e.g., saying “adopt” instead of “adapt” in the following sentence: “a teacher must be quick to adopt himself to any situation” (Laufer, 1988, p. 115). In her study, Laufer identified several attributes that words can share that can make them synforms of each other. A handful of these are particularly relevant to Sino-Korean vocabulary; I list these attributes below along with Sino-Korean examples:

Shared phonemes: Many Sino-Korean words differ by only one phoneme, such as the words jeong-bu/정부 “government” and jeong-bo/정보 “information” which only differ by one vowel.

Shared number of syllables: Most Sino-Korean words contain two syllables.

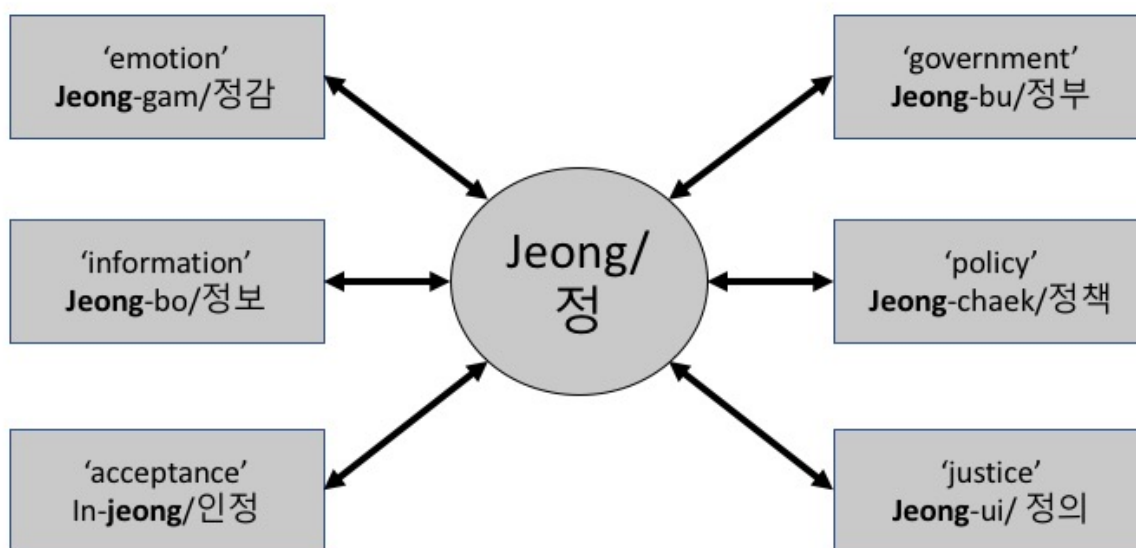
Shared syllabic position: Many Sino-Korean words share the same syllable in the same position as the previously mentioned example of jeong-bu/정부 “government” and jeong-bo/정보 “information” demonstrate.

Shared syntactic class: Many Sino-Korean words have a base word containing two characters that acts as a noun. The addition of native Korean suffixes and verbs like ha-da/하다 “to do” are used to convert these nouns into other parts of speech, such as verbs or adjectives.

Laufer’s study focused on analyzing errors produced in learner language but not did not explore the impact that synforms can have on learning new vocabulary. I hypothesize that

synformic language can also cause challenges in acquiring new vocabulary. With regards to Sino-Korean vocabulary, I hypothesize that words that share the same morpheme can become connected in learner's mental lexicons, regardless of semantic differences; for example, in Figure 1 below all of the Korean words that contain the syllable 정/jeong become connected in spite of their semantic diversity. As learners acquire more vocabulary without hanja syllable instruction, such networks become increasingly large and diverse, making it more difficult to add more words. This might also increase the likelihood that learners will produce errors similar to the kinds explored by Laufer.

Figure 1: Single syllable-based lexical network without hanja instruction



While synforms are found in all languages, the systematicity of Sino-Korean vocabulary presents unique pedagogical opportunities. The challenges that Sino-Korean vocabulary and hanja have presented for Korean L2 learners have long been recognized and acknowledged by Korean SLA researchers and L2 educators, and most researchers agree that some degree of hanja education is necessary if learners hope to progress beyond intermediate levels of proficiency

(Jung and Cho, 2006), (Moon, 2003). In fact, hanja education is already extensively used for learners who come from countries that use Chinese characters (hereafter, the *Sinosphere*). Learners from Sinosphere countries can rapidly learn Korean vocabulary since the sounds and meanings of the words are similar. Furthermore, Sinosphere learners can read the Chinese characters that accompany Sino-Korean words in the dictionary, thus allowing them to see and understand the definitions of the component syllables. As a result, hanja is directly incorporated in Korean language lessons even at beginning levels for Korean language classes taught to learners already proficient in Chinese characters.

Amongst Korean SLA educators and researchers, the question of how to teach hanja to learners not proficient in Chinese characters (non-Sinosphere), has long been an active area of debate. At this point, it should be emphasized that this paper focuses exclusively on non-Sinosphere learners⁶. One question that has been explored is when to introduce hanja into Korean language education. Most researchers agree that hanja education should start at higher levels of proficiency (Kim, 2003; Cho, personal communication). While there is some disagreement on this topic, most scholars have agreed that teaching hanja characters to learners who are still developing proficiency in basic communication skills would be burdensome (Cho, personal communication). Generally speaking though, many university Korean programs offer hanja characters as a separate course for advanced learners (Cho, personal communication).

Another topic that has been explored in depth is how educators should introduce and teach hanja; Kim Ji Hyeong (2003) for example, argues that instruction of hanja characters should start with teaching learners how to read and write the form, sound, and meaning of individual characters before progressing to more advanced aspects of character use, such as the

⁶ Throughout this paper, the term “learners” will be used to refer specifically to non-Sinosphere Korean language learners; this is done only in the interest of brevity and is not done to exclude Sinosphere Korean language learners.

origins of their forms and their usage in practical situations. Another area some researchers have explored is creating a list of characters that should be included in a Korean L2 course (Kang, 2001). Finally, Bang (2007) has also explored some of the learning strategies Korean L2 learners use to acquire hanja characters.

Most of this research assumes that hanja instruction will focus on teaching students how to read and write the hanja characters themselves. This presents an enormous challenge to Korean language learners. As was previously mentioned, modern Korean is almost entirely written in hangeul, the phonetic Korean alphabet. Hanja characters are only used in isolated contexts such as academia and law and in many books and textbooks written before the 1970s. As a result, most modern Korean language learners will have no practical use for reading and writing hanja characters. Even if a learner takes the time and effort to learn a large number of characters, they will not get many chances to use that knowledge in practical circumstances unless they specifically seek out texts that are written in hanja characters.

Jung and Cho (2006) however, propose a different approach. They argue that the current paradigm for hanja instruction focuses too heavily on the rote memorization of how to write individual characters. In their study, Jung and Cho examined four hanja textbooks designed for English speakers as well as two Korean textbooks that incorporated hanja instruction with instruction on other aspects of Korean language. While the textbooks varied in terms of their content, Jung and Cho found that most textbooks emphasize memorizing characters with a strong focus on writing and proper stroke order. They also noted that the textbooks tended to create word lists based on characters that appeared in the same text. However, they argue (as do I) that the primary purpose of hanja education should be “to enlarge the Korean language vocabulary by understanding...[that] each character is associated with a meaning and a sound” (Jung and Cho,

2006). Instead of teaching students to memorize and write hanja as they appear in only one word, students should learn how a single hanja can forge semantic connections between diverse vocabulary. Jung and Cho argue that hanja education should be organized around showing how a single hanja can be used as a component in generating multiple vocabulary items and how study of hanja can help learners create clusters of related words. They propose a series of different organizing principles teachers could use to develop vocabulary lists that demonstrate the semantic connections created by hanjas. Some of their organizing principles include generating lists of words that all contain the same hanja character, generating lists of words based on thematic clusters (e.g., words based on the hanjas for the cardinal directions), and generating lists of words based on hanja characters that describe similar concepts used in different contexts. The ultimate goal of these organizing principles is to show how understanding a single hanja can help learners forge important connections among a large number of vocabulary words.

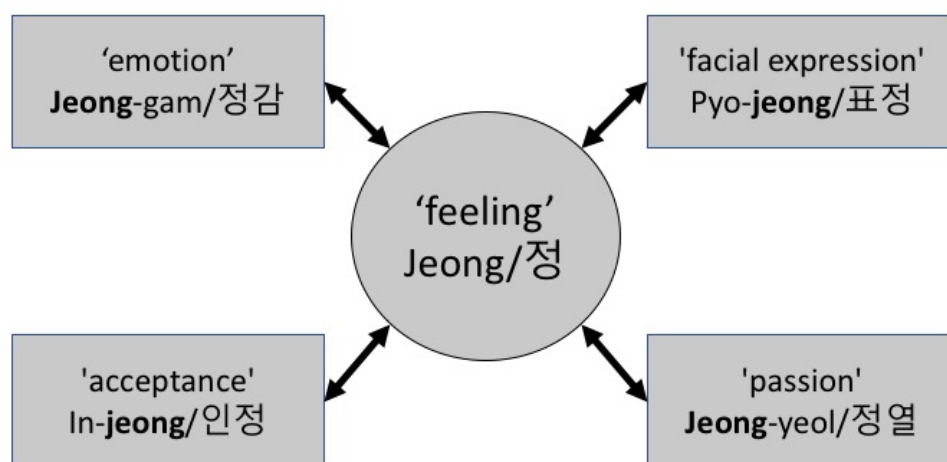
While Jung and Cho (2006) make arguments that are in line with most of my views about the primary purpose of hanja education⁷, their study was limited to analyzing existing hanja resources, and did not address the process of vocabulary L2 learning. To the best of my knowledge, no researcher has empirically investigated the effect of hanja education on L2 vocabulary learning, and more specifically the effect of knowing the sound to meaning relationship of hanja syllables. The present study aims to investigate this effect, while eliminating instruction on reading and writing the hanja characters themselves.

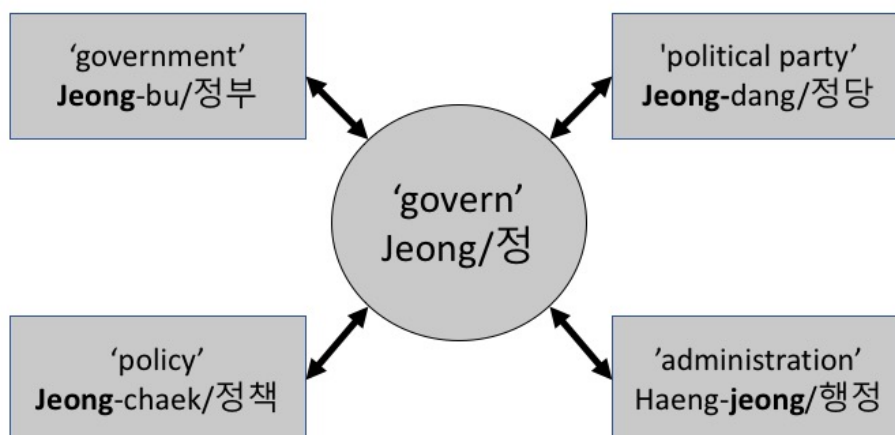
In the present study, students were taught the meaning to sound relationship of individual hanja syllables (e.g., su/수 means “water”). Students also participated in a series of pedagogical

⁷ I say “most of my views” because Jung and Cho still advocated some degree of character education while I am arguing that hanja syllables should be incorporated into mainstream Korean L2 teaching without characters. Instruction on reading and writing characters can be preserved as a separate course for those students who are interested in or may need them.

activities to help them notice how hanja syllables can be used to form connections between words that share the same syllable. I hypothesize that by teaching students the meaning of hanja syllables in this way, students will be able to form semi-independent lexical networks of words that share the same morphological root; Figures 2 and 3 below show simple examples of such lexical networks, the first formed around the hanja 정/jeong “feeling” and the second around the hanja 정/jeong “govern”. When a learner’s internalized networks of words share the same phonological *and* semantic root, the knowledge of the root and the words in the network should reinforce each other, making these words easier to remember and recall. Furthermore, as learners add more lexical items to these networks, the meanings of these items should become reinforced, rather than weakened. As a consequence, if students come across a word that contains a familiar hanja syllable, that word should be easier to remember than a word that does not contain a familiar hanja syllable.

Figures 2 and 3: Single hanja syllable-based lexical networks resulting from instruction





The first part of this study describes the intervention, a pedagogical treatment that employs the principle suggested by Jung and Cho (2006) of demonstrating to students the connections that hanja syllables create between vocabulary items. A subsequent quantitative empirical investigation asks the research question:

For Korean learners with hanja instruction, is short-term learning (STL) of an unknown Korean word that contains a known hanja syllable better than STL of a Korean word that does not?

Methodology

Participants and Participant Training

This study took place in an intermediate level, third-year Korean class at a large midwestern University, carried out with the permission of the course instructor; all of the activities related to this study took place during class time. There were eleven students in the class, but two students were native Chinese speakers and were excluded from the study, leaving a sample size of nine students, all of whom were native English speakers. An intermediate level language class was selected because the students had been studying Korean for more than four or

five semesters and had a base familiarity with Korean vocabulary; as a result, when they were introduced to a new hanja syllable, they often knew at least one or two words that contain that syllable.

At the beginning of the semester, the course instructor introduced me to the class as a graduate student researcher. I gave the students a 30-minute presentation introducing the topic of my research and the linguistic background of hanja and its influence on Korean vocabulary. I also showed the students a couple of resources that they could purchase or borrow from the library if they were interested in learning more about hanja, including *Handbook of Korean Vocabulary* by Miho Choo and William O'Grady (1996) and *Useful Chinese Characters for Learners of Korean* by Choi et al. (2007). The students were told that participation in the research project was entirely voluntary and that participation or non-participation in the study would have no impact on their course grade. All nine eligible students consented to participate.

After that initial meeting, I met with the class for four sessions, each session lasting approximately 30 minutes and taking place once every 2 weeks. During each session, I conducted the same set of three activities with the students to not only teach them hanja syllables but also encourage them to engage with their meanings and the connections they have with Korean vocabulary. The activities involved a combination of individual and group work. The classroom had 3 tables, with 3-4 students at each table. Students were not assigned a group and worked with the students who choose to sit at the same table that day. All of the activities were designed around course readings assigned by the instructor. For each session, I went through a small section of the course reading and identified approximately 15 common hanja syllables that appeared in the reading. Common hanja syllables were selected if they appeared in the previously mentioned *Handbook of Korean Vocabulary* with priority given to syllables that

appeared in a large number of words. By focusing on hanja syllables already present in assigned course readings, the activities were designed to complement students' normal vocabulary study, rather than add to it.

Each of these activities was designed to encourage students to notice Sino-Korean words and the connections they share with each other in addition to learning their meaning. In this regard, the design of this study relies on observations made in Schmidt and Frota (1986) that in order for elements in second language input to become intake, learners must actively notice them. Accordingly, the goals of the pedagogical activities were not just to have the students learn and memorize the meanings of individual hanja syllables but to notice these syllables in meaningful L2 input and engage with the connections that these roots create between lexical items. This pedagogical approach is also consistent with the usage-based approach advocated for by Nick Ellis (2009): these activities begin by encouraging learners to internalize meaningful chunks of language before analyzing the parts.

While I am including descriptions of my pilot pedagogical activities in this paper, the primary goal of this project was not to develop strategies for teaching hanja or hanja syllables; this topic has been explored in greater depth by the other researchers cited in the literature review. As previously mentioned, the goal of this study was to produce empirical evidence that learning hanja syllables can improve short-term retention of new Korean vocabulary. The reason for including an introductory pedagogical component of this study was to equip all the students with the ability to recognize and analyze a small set of hanja syllables before conducting the empirical investigation, syllables that would subsequently be used in the empirical investigation. I did evaluate the perceived effectiveness of this pedagogical component by giving the students a short survey about the pedagogical activities and conducting an informal focus group with the

students to collect their opinions. Out of the nine students in the class, only seven responded to the survey and only five participated in the focus group, so their opinions cannot be seen as representative of the whole class. In the discussion section, I will provide an evaluation that includes the results of the student survey, the opinions the students shared in the focus group, and my own analysis of the activity.

Activity one: Identifying Sino-Korean words in a text

In the first activity, the students were given a short passage selected from their readings (average length was 226 words) and asked to read through the passages and highlight any words they thought were based on Chinese characters. After the students finished highlighting, I collected their copies and gave each table a second copy to do as a group. When the groups finished, the students were shown a slideshow presentation that had the correct answers highlighted and were asked to individually review which words they missed or marked incorrectly.

The goal of this activity was to encourage students to start to notice some of the phonological, morphological, and syntactic differences between Sino-Korean words, native Korean words, and foreign loanwords. I described some of these attributes in the introduction of this paper. However, in my 30-minute presentation to the students, I focused more on the historical aspects of Sino-Korean vocabulary and neglected to discuss some of the specific phonological attributes of Sino-Korean words that differentiate them from native Korean vocabulary (see discussion section for more information). After the activity, I collected all of the students guesses, graded them, and recorded their accuracy.

Activity two: guessing the meaning of an individual hanja syllable

In this activity, students were given a list of individual hanja syllables that had appeared in their course reading. Each hanja syllable was presented with its respective Chinese character and three to five words that contain the syllable, as well as their English definition. Students were then asked to look at the set of words and guess the meaning of the individual hanja syllable. Table 2 below provides an example of this handout; in the table, the correct answers have been left blank and can be found in the footnote at the bottom of this page⁸.

Table 2: Example Worksheet for Activity 2

| Syllable | Character | Representative Words | Guess | Definition |
|----------|-----------|---|-------|------------|
| 회/ho | 會 | 회원/ho-won (member) 대회/dae-ho (competition, rally) 회의/ho-ui (meeting) 동호회/dong-ho-ho (club) 회사/ho-sa (company) | | |
| 공/kong | 公 | 공개/kong-kae (opening to the public) 공원/kong-won (park) 공립/kong-rip (public establishment) 공휴일/kong-hyu-il (public holiday) | | |
| 동/dong | 動 | 활동/hwal-dong (activity) 운동/un-dong (exercise) 동물/dong-mul (animal) 행동/haeng-dong (behavior) | | |

Each student first attempted to guess the meanings of the syllables individually. After all the students had finished, they were given a second copy of the worksheet to attempt as a group; this was done in order to encourage them to share their observations with each other. When all students had finished guessing, the correct answers were displayed on the slideshow presentation

⁸ The answers are, from top to bottom: meeting/gathering, public and movement/motion.

and the students were instructed to write them down in a blank column that had been left for the correct definitions. Students were encouraged to study this list outside of class and were also provided with a set of flashcards via the internet/phone application Quizlet.

The goal of this activity was to encourage students to actively notice the semantic connections between words, connections that they might not have noticed previously if they had not been made salient. Providing them with several examples of words that all contain the same hanja syllable gave them an opportunity to notice, analyze, and engage with the similarities with words that might not otherwise appear in the same context. I hypothesized that this would help them both remember the meaning of the individual hanja syllables as well as the representative words, encouraging the development of a lexical network containing semantically related homophones. In this regard, this activity employed the same principles articulated by Jung and Cho (2006) by extending education of hanja syllables beyond the definitions of single syllables to also include how a single syllable can appear in a large number of vocabulary words.

Activity three: guessing whole words using hanja syllables and contextual clues

In the final activity, students were given an unknown word that contained a hanja syllable covered in activity two. Students were also given a sample sentence that contained the unknown word. In order to encourage student comprehension, both the unknown word and the sample sentence were selected in cooperation with the course instructor, who was most familiar with the students' proficiency levels. The students were then instructed to use their knowledge of hanja syllables and the sample sentence to guess the meaning of the unknown word. See below for an example. The primary goal in including this activity was to provide students with an additional opportunity to use and engage with the hanja syllables that they learned in the previous activity.

Word: 표정/pyo-jeong

Known syllable: 정/jeong – “emotion”

Sample sentence: 상대방의 얼굴 표정을 보면 감정 많이 알 수 있다.

Translation: *when you look at the pyo-jeong⁹ on someone else's face, you can tell what emotions they are feeling.*

Data Collection

Towards the end of the semester, I gave the students a list of 22 hanja syllables that were going to be included in the study and instructed them to memorize this list (see Appendix for this list). This was done to ensure that going into the investigation, the students would know and recognize all of the hanja syllables that were going to be used in the assessment. All of the hanja syllables on this list had been selected from the more than sixty syllables covered during the three pedagogical activities in the first four meetings. In the interest of brevity, I will refer to this list as the HS list (short for hanja syllable list).

The investigation took place in two sessions: Session One took place on a Wednesday and Session Two took place the next time the class met, on a Monday. During Session One, the students memorized a list of twenty words, of which half (10) contained hanja syllables that came from the previously mentioned list of 22 hanja syllables and the other half did not. The students were told that this would be the only day of investigation to dissuade them from trying to study or remember the words covered in Session One¹⁰. During Session Two, the students were assessed a second time on the same set of twenty words to evaluate how many words they still retained.

⁹ The answer is “facial expression” or “expression”.

¹⁰ This study was exempt from IRB committee review. As a result, this deception was not approved by an IRB committee, but it was approved by the faculty advisor for the study.

At the beginning of Session One, the students were given a multiple-choice test (see Appendix) covering the syllables on the HS list. In the multiple-choice test, the students were shown a hanja syllable and asked to select its English definition from four choices. This was done to ensure that the students knew all of the hanja syllables that were going to be included in the investigation. Most of the students scored 100% on the multiple-choice test except for one student who scored 73%. This student was removed from further data analysis, reducing the sample size to five students.

After completing the multiple-choice test, the students were told that the investigation would consist of two tasks. The first task was a memorization task: the students were given a list of ten unfamiliar Korean vocabulary words that had been selected in cooperation with the course instructor to try to ensure that all of the words were unknown to the students. This list was going to be used to evaluate student memorization in a Korean-to-English translation condition and will hereafter be referred to as the KE list. The KE list contained ten Korean words and their English translations; of these Korean words, five contained a hanja syllable from the HS list and the other five did not (see Table 3 for the KE list). In the interest of clarity, I shall refer to the words that contained a syllable covered in class as “known hanja words” and the words that did not contain syllables covered in class as “unknown hanja words”. All of the words used in the investigation were two-syllable nouns that shared no obvious thematic similarities. The students were first asked to circle any words they already knew; no student circled any of the words, indicating that for all of the students, the list contained only unknown words. Then, the students were given ten minutes to memorize all of the Korean words and their English translations.

Table 3: The KE word list

For the reader, the known hanja words are marked in bolded italics, but in the investigation the known hanja words were not marked.

| | |
|---|--|
| 곤란/gol-lan “difficulty, hurdle” | 조롱/jo-rong “mockery, ridicule” |
| 운용/un-yong “ <i>management</i> ” | 화해/hwa-hae “reconciliation, compromise” |
| 단순/dan-sun “simplicity” | 심오/sim-o “profundity” |
| 법원/beob-won “ <i>court</i> ” | 열정/yeol-jeong “ <i>passion</i> ” |
| 공해/gong-hae “ <i>public hazard</i> ” | 미인/mi-in “ <i>beautiful woman</i> ” |

After the ten-minute period had passed, the lists were removed, and the students were given a distractor task. In this task, the students were presented with an unknown word and a sample sentence that included the unknown word. Students were asked to either write down the meaning of the word if they already knew it or indicate that they did not know it and try to guess its meaning. Some of the unknown words contained hanja syllables from class and the others did not.

The goal of this second, distractor task was not to assess the impact of hanja syllable knowledge on the ability to guess unknown words. Rather, the word guessing task was included as a distractor task to induce the students to spend several minutes actively thinking about another topic after they memorized the KE list. The goal of including a distractor task was to see how many words the students would recall after spending several minutes actively focused on another task. The students were not informed of the purpose of this second task. If the students

had known this was a distractor task, they might have focused their attention on remembering and mentally practicing the lists that were included in the first task, the KE list.

Upon completing the distractor task, the students were given a second copy of the KE list that only included the Korean words. The students were instructed to write the English translations of all of the words. The Korean-to-English (KE) translation condition was included in order to assess the impact of hanja syllables knowledge on the ability to passively recall the definitions of Korean words. The KE translation condition was intended to simulate language use in receptive modalities, i.e. reading and listening.

When the translations were completed, the word lists were collected, and the students were given a second list of 10 Korean words paired with English translations to memorize: this was the EK, or English-to-Korean, word list (see Table 3). As before, 5 of the Korean words contained a hanja syllable the students had studied and 5 did not. The same procedure was repeated: the students were given ten minutes to memorize the list, after which they were given a second version of the word guessing ‘distractor’ task. They were then given a second copy of the EK list: the students were presented with 10 English words and asked to translate the words into Korean; this translation condition was intended to simulate productive modalities of language use, i.e. speaking and listening. Both the KE and the EK translation conditions were included in this investigation in order to rule out the possibility that translation order might influence vocabulary recall. In such a situation hanja syllable knowledge might only help students in one translation condition. It might be possible that hanja syllable knowledge would only help students recall the English definition of a Korean word but would not help students recall a Korean word when given an English prompt (or vice versa).

Table 3: The EK word list

The known hanja words are marked in bolded italics for reader clarity, but not in the investigation.

| | |
|--|--|
| 도망/do-mang “escape” | 회생/hwae-saeng “ <i>revival</i> ” |
| 규모/gyu-mo “ <i>scale, size</i> ” | 묘기/myo-gi “ <i>acrobatics</i> ” |
| 흥분/heung-bun “excitement, stimulation” | 은근/eun-geun “politeness, courtesy” |
| 단련/dan-yeon “training” | 골곡/gul-gok “crookedness” |
| 시한/si-han “ <i>time limit, deadline</i> ” | 현황/hyeon-hwang “ <i>present condition</i> ” |

Four days later, Session Two of the investigation took place. The students were assessed a second time on KE and EK lists in order to see how many words the students still retained after a period of several days had elapsed. The students had not been warned in advance that they would be assessed again in Session Two and they were not given copies of the word lists; as such, the students did not get any opportunities to study the word lists outside of the allotted ten-minute period that occurred within Session One. This was done in order to ensure that all of the students spent equal amounts of time studying the word lists; if students had been given an opportunity to study the word lists outside of the investigation or if they had been warned that they were going to be assessed a second time, differences in student performance might have been caused by differing amounts of time students had spent studying the word lists. As in Session One, Session Two also featured two translation conditions, a Korean-to-English translation condition and an English-to-Korean translation condition. Each translation condition included five known hanja words and five unknown hanja words for a total of 10 words per translation condition. The students were given the lists at the same time and given 10 minutes to

complete both of them. The answers were rated by the number of words that were correctly translated – incomplete or incorrectly translated words were rated incorrect.

Data Analysis

The data from Session One were not analyzed statistically: student accuracy in Session One was very high and there was no discernible difference between the known hanja words and the unknown hanja words in either translation condition (see the results section for more information).

Only the data from the Session Two were analyzed statistically. Given the small sample size, a nonparametric exact permutation test¹¹ was conducted on the student test scores to determine statistical significance of the main effect of hanja, i.e. the presence/absence of a known hanja syllable (known hanja vs. unknown hanja words). For this test, the critical level of significance was set at 0.05. The results of the statistical tests will help determine if differences in the number of correctly translated known hanja words and correctly translated unknown hanja words are statistically significantly, thus providing evidence that the differences in scores are greater than what might be expected from random chance alone.

Randomization tests were also performed on the main effect of translation order to determine the interaction effect between translation order and the presence/absence of known hanja syllables. In such an interaction, the difference in scores between known hanja and

¹¹ Exact permutation tests are useful for studies with small sample sizes since they do not require that the sample data meet the assumptions for any particular type of distribution (Effron & Tibshirani, 1993; Good, 2001). In an exact permutation test, the two subgroups of test scores (e.g., the number of correct translations of known hanja words and the number correct for unknown hanja words), are assumed to come from the same underlying population. A randomization distribution is created by randomly assigning each student test score to one of the two subgroups a large number of times (e.g., 5000) and calculating a statistical measure (e.g., an F-statistic) for an effect (e.g., known hanja versus unknown hanja) in each randomization sample. This large set of potential statistical measures then forms the basis for the randomization distribution. The p-value for the exact permutation test is the proportion of randomization mean differences that have a statistical measure of the effect as high or higher than the statistical measure of the effect in the observed sample.

unknown hanja words would be statistically significant in one translation condition (say, the Korean to English condition) but not significant in the opposite condition (in this example, the English to Korean condition). That would mean that hanja syllable knowledge only helps students recall definitions in (for example) receptive modalities but not in productive modalities, or vice versa.

Results

The goal of this study is to investigate if short-term learning (STL) of a new Korean vocabulary word is improved if a word contains a known hanja syllable. The student's STL of new Korean vocabulary words was assessed in two sessions: in Session One, students memorized two lists of words and then were assessed on both lists after completing a distractor task. In Session Two, four days later, students were assessed again on those same word lists. There were two word lists, the KE word list (Korean to English translation condition) and the EK word list (English to Korean translation condition). Both lists contained ten words total, five of which contained a known hanja syllable (known hanja words) and the other five did not (unknown hanja words).

Student accuracy in Session One was very high: in the KE word list (Korean to English translation), all of the students correctly translated all of the words, regardless of whether or not they were a known or unknown hanja word. In the Session One EK list (English to Korean translation) the scores were slightly lower - on average, the students correctly translated from English to Korean 4.2 of the 5 known hanja words and 4 of the 5 unknown hanja words. These results were not analyzed statistically.

In Session Two, 4 days after Session One, the students were tested again with different versions of the KE and EK word lists. In total, in Session Two, students correctly translated more

of the 10 known hanja words than the 10 unknown-hanja words, both when the scores are combined across translation conditions (Table 4) and when each translation condition is considered separately (Table 5).

Table 4: Mean scores on combined KE & EK lists in Session Two

| | Mean | S.D. |
|---------------------|--------------|------|
| Known hanja words | 6/10 (60%) | 2.55 |
| Unknown hanja words | 3.4/10 (34%) | 1.82 |

Table 5: Mean scores on known & unknown hanja words in each translation condition

| Translation condition | Mean | S.D. |
|--------------------------------------|-------------|------|
| Korean – English (KE): known hanja | 3.6/5 (72%) | 1.67 |
| Korean – English (KE): unknown hanja | 2.6/5 (48%) | 1.14 |
| English – Korean (EK): known hanja | 2.4/5 (52%) | 1.14 |
| English – Korean (EK): unknown hanja | 0.8/5 (16%) | 0.84 |

The results of Session Two were analyzed statistically using an exact permutation test that tested the main effect for the presence of a familiar hanja syllable, the main effect of translation order, and the interaction effect of the two. The p-value for the exact permutation test for the main effect of the presence of familiar hanja is statistically significant at $p = 0.02$ (see Table 6). The p-value for the main effect of the order of translation is also statistically significant at $p = 0.01$. The interaction effect between translation order and presence of familiar hanja is not statistically significant at $p = 0.35$. This indicates that students correctly translate more Korean words if they contain a known hanja syllable and that this effect persists regardless of whether they are being asked to translate from Korean to English, or English to Korean.

Table 6: P-Values for the main and interaction effects tested in the exact permutation test

| Effect | P-Value |
|---|---------|
| Main effect of the presence/absence of known hanja syllable | 0.02 |
| Main effect of translation direction | 0.01 |
| Interaction effect between two main effects | 0.34 |

Discussion

The results of this small study provide initial evidence that knowledge of the meaning of individual hanja syllables helps Korean students remember and translate new Korean vocabulary words over a short period of time. Whether translating from Korean to English or English to Korean, students correctly recalled more words if they contained a hanja syllable covered in class and memorized at the start of the study. That suggests that hanja syllable knowledge could help students recall vocabulary both when they encounter the word in receptive modalities, i.e., reading and listening, and when they have to retrieve vocabulary in productive modalities, i.e., speaking and writing. The study compared each student's performance when memorizing both known and unknown hanja words, thus eliminating the variable of inter-group variation.

The results of this study, while preliminary, do have important implications for Korean vocabulary pedagogy. If incorporated more widely into Korean language textbooks and courses, hanja syllables could serve as a powerful tool to help students expand their vocabulary, particularly for students who want to operate in realms where Sino-Korean vocabulary is especially common, such as in newspapers. Much of the Sino-Korean vocabulary students will encounter in those fields are similar to the words used in this investigation: they are highly specific and not used frequently, but they contain common roots that are present in many words that do appear frequently in everyday conversation. This study provides evidence that hanja syllables could provide a valuable connection between everyday Sino-Korean vocabulary that appear frequently and the more specific terminology that appears in certain fields and spaces.

Limitations

While this study does provide some promising evidence for the benefits of learning hanja syllables, there are some important limitations to this study. The first is the small sample size –

while nine students participated in the pilot pedagogical treatment, only six were present when the investigation was conducted and only five were included in data analysis. The statistical testing method used in this experiment – an exact permutation test – does allow valid statistical inferences to be made in spite of the small sample size. However, I still have concerns that this small size might not be representative of all Korean L2 learners and that the results of this study would be more generalizable if the sample size was larger.

There are other important limitations besides the small sample size. Many aspects of this study altered conditions so that they do not reflect how students might have to learn and apply hanja syllables in a real-world learning situation. The first is that the students were given a finite list of syllables that they were expected to know, in this case 22. In order to benefit from hanja syllables during practical language use, learners would have to know hundreds. Furthermore, the final list of hanja syllables did not include any homophonous syllables. In more realistic circumstances, students would have to be able to remember several potential definitions for each syllable. Finally, this study only tested the student's ability to learn and remember isolated vocabulary words over a short period of time. This study did not assess vocabulary recollection over longer periods of time, such as over the course of a semester or longer. Furthermore, this study did not look at potential benefits in more integrative realms of language use, like reading comprehension.

Future Research

Future research could address many of these limitations. The most natural extension would be to repeat this study with a larger sample size. Repeating this study should also refine several aspects of the pedagogical treatment and collect more qualitative data from the

participants regarding the quality of the activities. However, there are other questions about hanja syllable use that should be addressed.

The most important question is whether or not study of hanja syllables can help learners retain vocabulary over longer periods of time. While this study provides evidence that hanja syllable knowledge can help over short periods of time, it is possible that the effect of study of hanja syllables will not last over longer periods of time. In order to realistically benefit from a knowledge of hanja syllables, learners will need to know hundreds of syllables. In addition, they will need to remember multiple definitions for homophonous syllables. This could produce challenges to long-term retention: over time, students might start to forget syllables or confuse them. Furthermore, if students are only learning hanja syllables and not learning hanja characters, they will need to be adept at inferring the meaning of a hanja syllable based only on the definition of the word and other contextual cues. For example, if a student comes across the word 소수/so-su “decimal”, they will need to accurately recognize that the 수/su in this word means “number” and not “water”, or another definition. Finally, they will also need to recognize false friends – familiar syllables that correspond to a definition they have learned yet. To continue the previous example, students will come across countless instances of 수/su that mean neither “water” nor “number”. Addressing these questions will likely need a longitudinal study to track how performance changes as students learn more syllables. Furthermore, a longitudinal study might permit comparing the performance of a control and a treatment group.

Another area that this study did not explore was the impact of hanja syllable knowledge on the ability to guess an unknown word based on contextual clues. Hanja syllable knowledge provides students with a tool to infer the meaning of an unknown word – if students know the definition of one or both of the syllables in a word, they could potentially synthesize that

knowledge with other contextual cues to guess the meaning of the word. A future study could explore student accuracy in guessing unknown words that contain hanja syllables covered in class.

Future research could also investigate if there are any benefits of hanja syllable knowledge for more integrative language skills, such as reading comprehension. One such future study could compare the performance of a treatment group and a control group on a standardized test of reading comprehension, such as the Korean government's Test of Proficiency in Korean (TOPIK). As part of their preparation for the test, the treatment group could incorporate hanja syllable training alongside other forms of test prep. Hanja syllable knowledge might help the treatment group both learn new vocabulary words in preparation for the test or in guessing unknown words while taking the test, the latter of which was reported by a student who participated in this study. However, in such a study, it would also be worthwhile documenting the qualitative experiences of the participants: it is entirely possible that there will be no difference between the two groups on test performance, but the treatment group might report that hanja syllables are a useful study aid that saved them time and/or effort in studying.

Future research could also re-investigate the question of whether or not beginner or low-intermediate learners could benefit from hanja syllable knowledge. As was stated in the introduction, most researchers agree that any form of hanja education should start at higher levels of proficiency, although this decision was based more on personal experiences and assumptions rather than research (Cho, personal communication). Since most of these researchers and educators were focused on a comprehensive hanja education (that includes characters), a more minimal hanja education focused only on syllables might be potentially beneficial to beginner learners.

Another question that future research could address are the comparative benefits of a comprehensive hanja education that includes reading and writing hanja characters vs. the minimal education advocated here, that only covers the meaning of hanja syllables, as was used in this study. Naturally, a comprehensive hanja education is necessary in any situation where hanja is actually written, which can be the case in some academic and legal contexts. The ability to read hanja characters can also be an advantage when using a dictionary: since most Korean and Korean-English dictionaries include hanja characters in the entries for Sino-Korean words, someone who knows how to read hanja can confirm the definition of each syllable when looking up a word without needing to guess. A key question is does this provide any benefits in areas of language use where hanja characters are not present? This is another topic that research should investigate, given that learning to read and write hanja characters is a difficult and time-consuming endeavor.

Evaluation of Pedagogical Component

Finally, one important area of future research is the development of pedagogical activities to help students learn hanja syllables. While a wide range of research has been conducted on pedagogy for learning how to read and write hanja characters (see the Literature Review), to the best of my knowledge no study has attempted to develop and evaluate pedagogy specifically for hanja syllables. While the primary goal of this study was not to develop such pedagogy, three pedagogical activities were piloted, and an informal assessment was conducted. At the end of the study, the students were given a short online survey that contained both multiple-choice and open ended-questions, questions that asked them about the perceived effectiveness of the activities, as well as their general opinions on learning hanja syllables. I also conducted an informal focus group with five of the students in the class. Of the nine students that participated

in the pedagogical component of the study, only seven responded to the online survey and only five participated in the focus group, so their opinions cannot be seen as representative of the groups. In this section, I am including both the student's opinions as well as my own subjective opinions on the activities.

Activity one: identifying Sino-Korean words in a text

In this activity, students were presented with a short passage from their course reading and were asked to identify any words they thought were Sino-Korean. This activity did not prove to be very useful. Since the students were only required to mark words they thought were Sino-Korean, this was the only activity where accuracy could be measured objectively. In general, student guesses were not very accurate. Across all lessons, on average students accurately identified 42% of all of the Sino-Korean words present in the texts. Students also frequently misidentified native Korean words as Sino-Korean words. That said, in the follow up survey, five students ranked this activity as either "moderately useful" or "very useful" and only two ranked it as "not very useful". During the focus group conversation, students did not mention this activity and most of their comments focused on the other two activities.

From my perspective, the main issue with this activity was I did not provide the students with focused instruction on how to identify Sino-Korean words. In my introductory presentation to the students, I did talk about the history of Sino-Korean words and how they function as a system for generating new vocabulary words, content similar to what was discussed in the introduction of this paper. However, I did not describe some of the more specific phonological and morphological characteristics that tend to distinguish Sino-Korean words from native Korean words. This activity might not be particularly essential anyway: most Korean-English dictionaries will provide hanja characters in the entry for a Sino-Korean word, effectively

marking it as a Sino-Korean word. As such, this might not be a skill that has to be directly taught, as long as students are made aware that anytime they look up a word in the dictionary, they can also quickly check if the word is Sino-Korean. Furthermore, if students are actively studying hanja syllables, the presence of some of those syllables in a word could act as a cue that the word is likely Sino-Korean. At most, this activity served to forge connections between their course readings and the hanja syllables covered in the activities by getting them to re-read their coursework with a sharper eye on vocabulary.

Activity two: guessing the meaning of an individual hanja syllable

In this activity, students were given a list of hanja syllables. Each hanja syllable was presented with a group of 3-5 sample words that contained that syllable. Each sample word also included an English definition. The students were instructed to read the sample words and guess what the definition of the hanja syllable.

Most students agreed that this activity was the most useful of the three. In the focus group conversation, students spoke highly of the activity. Four students ranked it as very useful, two as moderately useful, and only one student ranked it as not useful. One aspect that made this activity successful was that English translations were provided with the representative words, so even if students did not know all of the Korean sample words, they were still able to participate in the activity and make informed guesses about the meaning of the hanja syllable. This was also a valuable activity because it provided students with a variety of sample words that demonstrated how hanja syllables can connect vocabulary words semantically. In that regard, this activity most employed the suggestions of Jung and Cho (2006). This activity encouraged students to engage with and notice the semantic similarities that connected otherwise distinct vocabulary words together.

Activity three: guessing whole words using hanja syllables and contextual clues

In this activity, students were given a short sentence that contained an unknown word. The unknown word contained a hanja syllable that the students learned in the previous section. The students were asked to read the sentence and synthesize contextual cues with knowledge of the hanja syllable in order to guess the meaning of the word.

In the focus group, most students said this activity was difficult and confusing. The main reason they mentioned was that they frequently did not know all of the words in the sample sentence, so they were unable to make a good guess about the meaning of the unknown word. In retrospect, I could have provided the students with a short vocabulary list to help them understand the sample sentences. Some students said another way to modify this activity would be to build sample sentences using vocabulary from the current unit. However, one student did state that this activity was useful because it was “more of a real-life situation” and that it “helps in your deduction skills”. In the survey, two students ranked this activity as “not very useful”, 3 ranked it as “moderately useful”, and two ranked it as “very useful”.

Overall Student Response

In addition to soliciting student feedback on each of the pedagogical activities, in the survey and focus group I also gathered comments from the students on various aspects related to learning hanja syllables as an aid in learning Korean vocabulary.

One topic we discussed was their awareness of hanja syllables before and after participating in this study. In the focus group, one student commented that they had been aware that similarities existed but “never really paid attention to it” and another student commented that they had known of it “not super consciously but you kind of noticed it”. One student did mention that hanja syllables were not covered in their prior education: “We have passed through many

words containing hanja in our Korean learning process here at the University of Minnesota, but even if we knew that they had or were hanja words, they were not directly addressed.” However, after participating in the study, all the students agreed that their awareness of the presence of hanja syllables was much higher. One student stated, “I had no idea [just by] looking but now I’m like oh I’m going to look it up.”

Another topic of discussion was the overall usefulness of knowing hanja syllables in supporting vocabulary learning. Most students felt that hanja syllable knowledge was useful. For example, student stated, “It made it a lot easier for me to remember certain words and I can group words with the same hanja together to help me learn new words quicker.” Another student stated that hanja syllable knowledge was useful in trying to understand written material that has a lot of unknown vocabulary: “Understanding some characters help [sic] with building meaning out of context. Now, there is still so much of the Korean vocabulary that I do no[t] know but recognizing syllables as hanja characters helps with general understanding of written material.” One student also stated that hanja syllable knowledge helps with remembering vocabulary in the long-term, since it provides extra “pattern recognition,” in that even if you do not remember a particular word, you can put the pieces together and “it makes a little bit more sense.” Finally, several students mentioned that hanja syllable knowledge was useful in studying for the Test of Proficiency in Korean (TOPIK), a standardized test that the students were going to take at the end of the semester. One student stated, “While taking a TOPIK practice exam, I noticed a few words that I didn’t know but was able to determine the definition based off the hanja [syllables] I learned. So learning hanja [syllables] has been very beneficial!”

I also solicited feedback from the students on how they thought hanja syllable education could be incorporated into Korean vocabulary teaching. Most students agreed that hanja syllables

should be incorporated in Korean education, but they provided different suggestions as to how. One student suggested that hanja syllables should be included with vocabulary lists, starting in second year Korean. On similar lines, another student recommended breaking down vocabulary words to show what the constituent pieces mean. Another student suggested that teaching a “most common hanja [syllable]” would be useful.

Finally, I also asked whether or not students planned on using hanja syllables as a resource in their future studies of Korean. Most students agreed that they would potentially use them, but many students highlighted some barriers or limitations. Some students said they would use them if they plan on pursuing higher levels of Korean proficiency but that they were not currently studying at that level. One student stated that one barrier was that there are too many to “memorize and effectively use.”

Pedagogical Implementation

While this study did pilot some pedagogical activities, there are many important questions surrounding pedagogical implementation that this study did not address. Some of these questions have already been explored by the research that has been done on the more comprehensive forms of hanja education, i.e. that include reading and writing hanja characters. One such issue is when to start teaching hanja syllables. Most scholars argue that hanja education should not start until late intermediate/early advanced levels of proficiency. There is no reason that this should be any different for hanja syllables - teaching hanja syllables at earlier levels of proficiency when students are still building basic everyday vocabulary would only add an extra burden and it would not be immediately useful¹². However, once students have a base of everyday vocabulary, hanja syllables could provide a valuable tool to expand their vocabulary.

¹² While many researchers believe this to be true, as was noted earlier in the discussion, this claim is based on personal experience and assumptions and not research.

Another important issue is which hanja syllables should be included in a Korean language course. There are hundreds of hanja syllables, corresponding to thousands of different characters. Of these characters, only some appear frequently and most forms of hanja education for both first and second language learners focus on these more productive characters. Previous research has already produced lists of characters that would be most beneficial for a Korean second language, so most of these lists could be used for a course that focuses only on hanja syllables (see Kang, 2001).

However, this does raise an important question about whether or not hanja syllables should be taught as a stand-alone lesson that focuses exclusively on the most common syllables or if hanja syllables should be taught as they appear in normal coursework. The latter approach was chosen in this study: all of the hanja syllables that the students learned were taken directly from their coursework. However, this approach was not chosen for any particular pedagogical reason but rather to minimize the burden this study imposed on the students and the instructor of the course. This approach does have some advantages: focusing on syllables that appear in course texts allows students to immediately connect the syllables they learn with other class content. It also increases the likelihood that some of the syllables will share contextual or thematic overlap. It is also worth mentioning that this approach did produce good results in the final investigation, but it is not clear whether or not the fact that the syllables in the assessment were related to course content added any extra benefit. However, one of the challenges of this approach is that the hanja syllables that do appear in any course text will vary widely in terms of how common or productive they are, which will present instructors with difficult decisions about which syllables to include. It also increases the possibility that students will miss out on learning some important syllables if they do not appear in any coursework.

The opposite approach - teaching hanja syllables as a separate lesson - would allow instructors to focus only on the most common ones. This ensures that students learn the most important and common syllables in a structured fashion. However, this could create a disconnect between the syllables that students learn in a separate lesson and the language they learn in other coursework. Naturally, one potential compromise could blend the two approaches.

While teaching hanja syllables does have some advantages, there are some challenges to including hanja syllables into vocabulary education. In order to meaningfully use hanja syllables, students would likely need to learn more than a thousand. Retaining such a large number of syllables over a long period of time may prove challenging, particularly since many of them are homophones. Since learners will not be able to read the hanja characters present in dictionary entries, they will also need to be adept at inferring the meaning of a known hanja syllable based on the definition of the word in which it appears. For example, if a student comes across the word so-su/소수 “decimal” while reading a new text, they will need to correctly infer that the syllable su/수 in this context means “number” and not another possible definition such as “water” (this assumes they have learned both of those syllables). They will also need to recognize “false friends” – syllables that look familiar but correspond with a definition they have not learned. Finally, not all learners in a certain class will want to study hanja syllables. For example, a student who wants to learn Korean primarily for everyday communication might not find hanja syllables to be all that useful. In that case, it might be better for instructors to make study of hanja syllables an optional part of course content.

The design of hanja syllable activities could help address some of these challenges. In order to help students deal with the large amount of homophonous syllables, instructors should avoid teaching multiple definitions of the same syllable in one lesson: this would increase the

likelihood that students will confuse these definitions. Teachers could also give students practice in identifying known hanja syllables in unknown words. In such an activity, teachers could give students a list of obscure words and their English definitions. All of these obscure words would contain hanja syllables previously covered in class and students would have to identify and define them.

However, if hanja syllables are included in Korean vocabulary education, it is important that instructors should employ the suggestions outlined by Jung and Cho (2006). It is not enough to only teach students the definition of a single syllable: any education in hanja syllables should also demonstrate to students how syllables are used to generate large numbers of vocabulary words. This will help them recognize the semantic similarities between words that share the same syllables.

Conclusion

The results of this study provide evidence that learning hanja syllables can help learners retain Sino-Korean vocabulary. Over the course of a semester, students were taught the semantic meaning of common hanja syllables that appeared in course readings. At the end of the semester, students were assessed on their ability to memorize and recall the definitions of twenty unknown words, half of which contained a hanja syllable covered in class; students correctly recalled more of the words that contained known hanja syllables. This provides evidence that hanja syllable instruction can help students retain the definitions of Sino-Korean vocabulary. This raises the possibility that hanja syllable education can act as a less intensive substitute to more comprehensive forms of hanja education, and future research should explore whether or not hanja syllables should be included as a part of Korean vocabulary education.

References

- Bang, H. (2007). An Analysis of English Native Speakers' Needs and Strategies in Learning Chinese Characters. *Bilingual Research*, 34, 185-220.
- Choi, E., Kim, M., Kim, S., Min, J., & Oh, M. (2015). *Useful Chinese characters for learners of Korean* (4th ed.). Paju-Si, Gyeonggi-do, South Korea: Darakwon.
- Choo, M., & O'Grady, W. D. (1996). *Handbook of Korean vocabulary: A resource for word recognition and comprehension*. Honolulu, HI: University of Hawai'i Press.
- Effron, B., & Tibshirani, R. J. (1993). *An introduction to the bootstrap* (Monographs on Statistics and Applied Probability, No. 57). New York: Chapman & Hall.
- Ellis, N. C. (2019). Essentials of a theory of language cognition. *The Modern Language Journal*, 103, 39-60.
- Good, P. I. (2001). *Resampling methods: A practical guide to data analysis*. Boston: Birkhauser.
- Jung, M., & Cho, Y. M. Y. (2006). Chinese Character Education in Teaching Korean as a Foreign Language: A New Paradigm of Cognitive Expansion (외국어로서 한국어 교육에서 한자 교육의 문제점과 개선방향). *The Korean Language in America*, 11, 64-83.
- Kang, H. (2001). An Analysis of Fundamental Chinese Character Words for Foreigners. *Journal of Korean Language Education*, 12(2), 53-70.
- Kim, J. (2003). A Study on Teaching Method of Chinese Character. *국제어문*, 27(27), 343-368.
- Moon, K. (2003). Teaching Methods of Sino-Korean for Korean Vocabulary Education. *Bilingual Research*, 23, 13-41.
- Laufer, B. (1988). The concept of 'synforms' (similar lexical forms) in vocabulary acquisition. *Language and Education*, 2(2), 113-132.

- Schmidt, R., & Frota, S. (1986). Developing basic conversational ability in a second language: A case study of an adult learner of Portuguese. *Talking to learn: Conversation in second language acquisition*, 237-326.
- Sohn, H. (2006). Korean in Contact with Chinese. In *Korean Language in Culture and Society* (pp. 44-56). Honolulu, HI: University of Hawai'i Press.
- Sohn, H., & Lee, E. (2003). *Integrated Korean: Advanced Intermediate 1*. Honolulu, HI: University of Hawai'i Press.
- Song, J. (2005). *The Korean language: Structure, use and context*. New York: Routledge.
- Whitlock, J. C. (2001). *Chinese characters in Korean: A radical approach: Learn 2,300 Chinese characters through their 214 radicals*. Seoul, South Korea: Ilchodak.

Appendix**Final Assessment Hanja Syllables**

This is the list of Hanja syllables that were given to the students prior to the experiment. All of the syllables on this list had been covered over the course of the semester. The table headers were originally presented in Korean but are presented here in English. Hanja are provided here for reference, but the students were not instructed to study them, nor were they assessed on their ability to read/write them.

| Hangul | Hanja | Meaning | Hangul | Hanja | Meaning |
|---------|-------|---------------------------|----------|-------|--------------------|
| 용/yong | 用 | use | 평/pyeong | 平 | ordinary, peaceful |
| 모/mo | 貌/模 | Shape; exterior | 성/seong | 性 | sex; nature |
| 현/hyeon | 現 | appear; now; current | 시/si | 時 | time |
| 천/cheon | 天 | sky; heaven; | 생/saeng | 生 | life; living; raw |
| 정/jeong | 情 | feeling; circumstances | 운/un | 運 | luck; transport |
| 기/ki | 技 | skill | 회/hoe | 會 | meeting; gather |
| 동/dong | 同 | Same; together | 식/sik | 食 | food |
| 미/mi | 美 | beauty | 활/hwal | 活 | lively |
| 애/ae | 愛 | love | 개/gae | 開 | begin; open |
| 품/pum | 品 | goods; product | 공/gong | 公 | public; official |
| 원/won | 原 | origin | 법/beob | 法 | Law; rule; method |

Final Assessment: Multiple Choice Test

The students were given this multiple-choice test to ensure that they had memorized all of the hanja syllables in the previous list. The correct answers are marked in bold for the reader. Romanizations and English definitions of the sample words have also been added, but they were not present in the final assessment.

Hanja Research Project: Final Assessment

For each hanja syllable, circle the correct meaning. Each syllable will be presented with one representative word.

9) 애/ae (연애/yeon-ae "lover")

a) feeling, emotion

b) empty

c) love

d) open

10) 품/pum (용품/yong-pum "goods")

a) goods; products

b) resources

c) store

d) fur, cloth

11) 원/won (원인/won-in "cause")

a) center

b) vision

c) message, direction

d) origin

12) 평/pyeong (평생/pyeong-saeng "lifetime")

a) north

b) official, government

c) ordinary, peaceful

d) sleep, dream

13) 성/seong (성격/seong-kyeok "personality")

a) medicine, drug

b) key

c) sex, nature

d) machine, device

14) 시/si (시간/si-gan "time")

a) time

b) attack

c) forward, movement

d) sky

15) 생/saeng (생일/saeng-il "birthday")

a) assessment, test

b) life, living

c) flower, plant

d) slow

16) 운/un (운동/un-dong "exercise")

a) blind

b) luck, transportation

