AN ANALYSIS OF WAGO/KANGO PREDOMINANCE IN SWEDISH STUDENTS’ JAPANESE VOCABULARY

A cued translation task involving wago and kango synonyms

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Aim: The aim of this thesis is to evaluate the lexical type predominance between Japanese-based wago and Chinese-based kango within the vocabulary of Swedish learners of Japanese, comparing those who have studied in Japan and those who have not. Various studies about wago and kango exist, but research regarding bilingual learners with a non-kanji background is still limited.

Theory: The theoretical framework on bilingualism is based on previous research on text entities and their structure as described by De Groot (1992) and Walter (2004). As for the parameters to analyze wago and kango’s basic elements and occurrence, studies conducted by Jin & Yokosawa (2007) and Nakayama (2002) were utilized. The translation task was inspired by Nakayama’s (2002) research on Chinese-Japanese bilinguals.

Method: The translation task was structured to ask participants to fill in suitable translations in the blank for the pronunciation of Japanese words based on the meaning of a corresponding Swedish word. A test consisting of a cued translation task was conducted in order to evaluate lexical type predominance between wago and kango. Intermediate/advanced level Swedish students of Japanese, with or without experience of learning Japanese in Japan, were asked to write two Japanese equivalents (each with a designated number of letters) for each of 40 Swedish words. This without being informed of the true aim of the test, which was to evaluate the wago/kango predominance pattern among the given answers. The two corresponding Japanese translation was acquired from Kanji look and learn (Banno et al., 2009). Preceding the translation task, the participants were instructed to answer a questionnaire to determine their previous experience with Japanese. The participants were not told of the test’s true aim to observe the preference between synonyms of kango and wago but instead were tasked with finding the most suitable translation that would fit inside the highlighted brackets.

Result: The results indicated that the respondents had a predominance to translate words into wago. Hence, within all the 1113 answers, 65% were wago and 35% were kango. Indicating an overall predominance towards wago rather than kango when translating. In addition, no noticeable difference could be observed for participants who had studied in Japan and those who had not.
Acknowledgments

During my years of studying Japanese, both in my home country as well as in Japan, I came across what seemed to be a predominance amongst my peers when speaking and writing for certain types of Japanese words. A large part of mine and my peers’ Japanese vocabulary seemed to consist of words with readings that existed before kanji and adapted after pre-existing native Japanese words, referred to as wago. After a while, however, I noticed that this predominance seemed to disappear the more our knowledge of Japanese increased. This interested me in comparing level-matched second language (L2) learners of Japanese with different study backgrounds and to see what tendencies they exhibit.

First of all, I would like to thank my supervisor Fusae Takasaki Ivarsson, who provided me with guidance and have supported me throughout the duration of this report. Her advice has helped greatly in all stages of my writing, and her quick replies have been greatly appreciated.

I would also like to give my gratitude to my fellow classmate Lisa Bendall, for reading and correcting my paper. Special thanks go as well to Linda for encouraging my research as well as reading and correcting my earlier drafts. I am also grateful to my family and close ones, for encouraging me to pursue my adventures and for their support throughout my years of studying Japanese.

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1. Introduction

One of the main questions facing researchers of bilingualism is how different lexical processes are stored and accessed from our long-term memory. De Groot (1992) shows us that a pair of translations may not share meanings completely, but rather the representations of a word’s meaning is distributed over a set of elementary conceptual units. Hence, the two members of a word share a subset of these units at a minimum and each member of a translation pair are associated with several language-specific conceptual units. In the case of a language containing many different lexical entities of foreign origin but with similar meaning, choosing what De Groot (1992) discusses as the most appropriate one, is challenging for most L2 speakers when translating from their native language (L1). Such is the case with Japanese, containing Sino-Japanese words (kango), loan words (gairaigo) and inherently native Japanese words (wago) (Igarashi, 2007). This, of course, poses a challenge for second language (L2) learners of Japanese speakers during translation, when choosing apt lexical entities while still retaining semantical accuracy.

The purpose of this thesis is to study differences in knowledge of the Japanese lexical items wago and kango, focusing on differences between students who have studied in Japan (> than 6 months) or only in Sweden. By observing these differences, hopefully, we are able to study the effects that one’s environment may have on lexical retention.

2. Theory

2.1 wago and kango

Few countries can truly call themselves monolingual, and even supposedly monolingual countries have bilingual and multilingual speakers. This has led to the exchanging of words between languages and Japanese is no exception. The general consensus is that kanji are characters created in China more than 3,500 years ago (Banno et al., 2009). Dating back to the origin of script, the Japanese did in fact not have their own writing system but are believed to have been introduced to kanji via Korea around 500 A.D (Banno et al., 2009). The characters had, however, been made for writing Chinese. Hence, after being introduced to Japan, Japanese kanji evolved to have two different types of pronunciations: kango, Sino-Japanese words that retained its Chinese pronunciation, and wago, readings that existed before kanji and adapted after pre-existing native Japanese words (Igarashi, 2007). Ivarsson (2016) explains the relationship between wago and kango in her introduction to facts and concepts related to kanji (Ivarsson, 2016) by comparing it to the words of Latin/Greek origins and Anglo-Saxon words.
corresponds to the English word “tripod” (tri “three” + pod “foot” via Latin tripodis from Greek tripous), and the native Japanese mitsuashi to “three-legged” of Anglo-Saxon origin. Sino-Japanese words tend to be used in technical terms and formal expressions, while native Japanese words are often found among basic words and everyday language, analogously to the contrast between words of Latin/Greek origin and those of Anglo-Saxon origin in English.” (Ivarsson, p. 35, 2016)

A study in 2006 from the National Institute for Japanese Language and Linguistics (NINJAL) illustrates the division of wago and kango in both high school textbooks as well as in children’s reading (Igarashi, 2007). In the study, the percentage of wago in children’s reading (78%) is higher than high school textbooks (40.1%), while at the same time, kango in children’s reading (18.7%) is much lower than in high school textbooks (52.3%) (Igarashi, 2007). Igarashi (2007) reasons that the literature that is intended for children are constructed to have less kanji, thus contributing to a decline in kango, as it is mostly represented through kanji. Conversely, high school literature has a higher occurrence of kango as they have been perceived as more suitable in Japanese academic writing (Igarashi, 2007). Furthermore, this suggests that learners of Japanese should experience similar progress as well, as both Japanese children and second language (L2) learners learn the hiragana script first, and only later are introduced kanji as the last orthographic element to be introduced.

“When students become familiar with hiragana, the number of kanji words increases as the use of hiragana content words decreases.” (Igarashi, p. 40, 2007)

These results are similar to those reported in another report from NINJAL (NINJAL, 2009), as the wago and kango usage in the vocabulary amongst children’s writing was analyzed:

“WAGO, original Japanese words which refer to familiar things and actions, decreased while KANGO, words borrowed from Chinese which primarily represent abstract concepts, increased with grade level.” (NINJAL, p. 182, 2009)

2.2 Word recognition processing

Bilingualism can be defined as regular use of two or more languages (Grosjean, 2015). A person is considered to be bilingual when you are either fluent in both languages (balanced bilinguals), or when you are stronger in one language compared to another (dominant bilingual). It is important to note; however, that although one may be a dominant bilingual, it is rare to have both languages cover all domains of life. In Marian & Spivey’s research (2003), their result indicates that upon hearing two words which sound similar in both Russian and English, the participants’ English and Russian lexical processing system are both activated for bilinguals (Marian & Spivey, 2003). It is understood that the frequency of the word plays a key factor in word choice (Marian & Spivey, 2003). This has been
supported in research by Beauvillian & Grainger (1987), arguing that the internal property of the lexicon and the coded frequency of different readings play an important role in lexical access.

In 1992, De Groot defined in her “distributed conceptual feature model”, the determinants of word translation from the subject’s L1 and L2 and where two lexical entities from two languages share different semantic representations. She argues that it is likely that words used often in monolingual settings also occur relatively often in translation settings, which will strengthen the memory connection for representational units between the two translations. As mentioned above, she concluded that a pair of translations may not completely share meanings, but the representation of word meanings is distributed over a set of elementary conceptual units (De Groot, 1992). This re-enforces the theory that a person’s knowledge of these distributions is seen as an important factor in word translation and association during code-switching. Additionally, De Groot’s research indicated that high-frequency words have fewer translation errors than low-frequency words in a monolingual setting.

Walter (2004) goes further on about the transferability of reading comprehension skills for L2, linking it to mental representations of text and L2 working memory. According to Walter:

“[the] working memory (henceforth WM) is a system of mechanism by which humans process the information they need for the performance of complex cognitive tasks and maintain it in an accessible form (…) what is processed and stored can be information from long term memory, or new information, or both.” (Walter, p. 318, 2004)

Walter (2004) and De Groot’s (1992) results indicate that a person’s translation choice is determined by multiple factors, such as frequency and the associations two translation pairs share.

Regarding Kanji recognition and retention, Ivarsson (2016) gives more details into the cognitive model of kanji retrieval. According to Ivarsson (2016), it is a widely acknowledged concept that cognition of a kanji character is supported by the knowledge of other related kanji characters. In circumstances where a character has not yet been mastered, one’s kanji cognition system process the unknown character, and use the partial information known in order to reconstruct sufficient enough information to guess the whole image of the character (Ivarsson, 2016). She further elaborates on the kanji’s storage in one’s mental lexicon, categorizing it into three storages: Form (orthographically similar assembly), sound (phonologically identical assembly, such as ka: 火、下) and meaning (semantically related assembly, words within a similar category of words, “plants”: 木、米、竹). These three categorizes work together for each kanji stored in the learner’s mental lexicon, forming an association network when the number of acquired characters increases (Ivarsson, 2016). For example, in what Ivarsson denotes as the “sound” assembly, words that are phonologically identical (homophonous) will be gathered, such as on-reading ka (日, 火, 下, 何, 夏, 歌, 家, 過, 荷, 化, and 果).
and the kun-reading hana (鼻), whereas the synonymous and antonymous characters would be placed in the “semantically related assembly” (Ivarsson, 2016). Regarding a writing task, it is by utilizing the phonological and/or semantic representations of a word that a visual representation can be reconstructed. Hence, an error occurs in this when the reconstruction fails (Ivarsson, 2016). Concerning a person whose L1 language is under the alphabetic writing system (i.e., an orthographically different writing system than Japanese’s kanji), it is acknowledged that the speaker will most likely try to apply their L1 reading strategy when reading kanji (for example, Swedish) (Ivarsson, 2016).

2.3. Previous research

Although there have been some studies that have analyzed Japanese wago (words with Japanese origin) and kango (Sino-Japanese words) knowledge, most of them have either focused on usage amongst L1 Japanese speakers or Chinese-Japanese bilinguals (Nakayama, 2002) (Jin & Yokosawa, 2007). Their research examined words identical in the Chinese and Japanese language, cognates, at both graphemic and semantic level (e.g., Nakayama, 2002). The current framework for the experiment is inspired by the methodology of Nakayama (2002). In her research on “the lexical status effect on cognates”, Nakayama (2002) utilized a word-fragment completion task (WFC task) in order to examine the Chinese-Japanese bilinguals’ lexical processing. She interviewed 22 bilingual Chinese students, all native Mandarin speakers, and late beginning Chinese-Japanese bilinguals. The test items ranged in length from four to six hiragana characters and one of the characters was represented by a space. Each test-item was chosen so that the missing character could be replaced with at least one other character that would still create a word. The participants were first taught 60 study items, and after doing a series of filler problems, tasked with completing fragments of the studied test items. Afterwards, they were asked to rank their recognition of said study items in order to observe the priming effect of cognates on kanji recognition (Nakayama, 2002). Her results indicated that it was not vital that the pronunciation of Japanese and Chinese cognates had to be identical for the participants’ recognition, but rather, it seemed to be vital that the orthographic representations of the cognates were important for the participants’ recognition.
Similarly, in 2007, Jin & Yokosawa also studied the attributes of language-switching in Chinese-Japanese bilinguals’ word recognition. Focusing on the comprehension of visually presented words, their research analyzed how the similarities in their writing systems affect cognitive processing by Chinese-Japanese bilinguals. Their result indicated that the tested bilinguals performed quicker in the recognition test when the representation of kanji was identical in both Chinese and Japanese (Jin & Yokosawa, 2007), e.g., words that are cognates (same meaning and spelling in Chinese and Japanese), such as *kenkou* which has the same kanji representation in both Japanese (*kenkou*: 健康) and Chinese (*kenkou*: 健康) had a higher accuracy amongst the bilinguals. In their experiment, four types of two-Chinese-character (Kanji) compound words were used:

“(1) words that are identical in Chinese and Japanese at both graphemic and semantic levels (cognates); (2) words specific to Japanese which do not have semantic meaning in Chinese (Japanese words); (3) words specific to Chinese, which do no [sic] have meaning in Japanese (Chinese words); (4) non-words in either language (pseudo-words).” (Jin & Yokosawa, p. 1, 2002)

They discussed that lexical processing in both Chinese and Japanese aids each other during word recognition (Jin & Yokosawa, 2007). Hence, words in two languages that had similar orthographic and semantic representations in both languages (for example *kango*) activated both the Chinese and Japanese lexical processes at the same time, which resulted in faster responses from the bilingual participants (Jin & Yokosawa, 2007). There are several similarities between Nakayama’s (2002) and Marian & Spivey’s (2003) research, which examined spreading activation and lexical processing for bilinguals. Marian & Spivey (2003) used eye-motion detectors to see which objects the participants would focus on when hearing words that sounded phonologically similar but had different meanings in English and Russian. The experiments’ results show that English-Russian bilinguals had a simultaneous activation in their lexical processing systems when English and Russian words were overlapping with their pronunciation (Marian & Spivey, 2003), supporting Jin & Yokosawa’s (2007) and Nakayama’s (2002) results.

<table>
<thead>
<tr>
<th>study item</th>
<th>test fragment</th>
<th>transcription</th>
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<tr>
<td>identical-cognate</td>
<td>健康</td>
<td>くんこう</td>
</tr>
<tr>
<td>similar-cognate</td>
<td>経験</td>
<td>けいいん</td>
</tr>
<tr>
<td>non-cognate</td>
<td>伺候</td>
<td>いさつ</td>
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</table>

![Figure 1 Example of the stimuli task in Nakayama's (p. 187, 2002) experiment](image-url)
As mentioned previously, there is little published data on similar research on learners of Japanese with a non-kanji background (i.e. whose L1 writing system is not logographic). Therefore, this research will primarily focus on Swedish L2 speakers of Japanese that will be translating from their first language (denoted as L1).

This research will examine the following two propositions: 1) based on the unequal distribution of *wago* and *kango* among the words highlighted to be memorized in the textbook used by all participants, “Kanji look and learn” (Banno et al, 2009), a significant difference may occur between the participant’s knowledge of *kango* and *wago* words. 2) The longer the exposure to the Japanese language in Japan, the better the overall knowledge of Japanese words should be for the participants. Students having spent a longer time in Japan will most likely have had more exposure to all types of vocabulary, and therefore, have a more balanced distribution of *wago* and *kango* in their vocabulary. Therefore, have a higher accuracy of translations for both *kango* and *wago* words.
3. Presentation of problems

As explained earlier, previous studies of *wago* and *kango* have not dealt with the effects it has on Swedish L2 Japanese speakers. Hence, the present study will aim to see if there is a discrepancy between the distribution of *wago* and *kango* usage for non-native Japanese speakers when translating from their native language, which for this particular study would be Swedish.

3.1. Aim and research questions.

The aim of this research is to investigate whether Swedish students tend to favor *wago* over *kango* when translating (vice versa), and thereafter decipher what sort of tendencies they exhibit.

The research questions are as summarized:

- Is there a lexical type predominance of *wago* and *kango* within the vocabulary of Swedish learners of Japanese?
  - If so, what kind of differences in the degree of predominance is observed according to the learners’ study history (length of formal education, the experience of study in Japan) and lexical familiarity?

3.1.1. Hypothesis

For the above-mentioned questions, the following hypotheses are constructed:

1. Based on the research of Igarashi (2007), the participants will most likely tend to translate the Swedish words into corresponding *wago*. Following Igarashi’s (2007) argument which suggests that non-native Japanese speakers should experience a similar language acquisition as Japanese children, learning primarily *wago* and only later being introduced to *kango*. This is further supported when looking at the distribution of *wago* and *kango* (the former being greater than the latter) in the kanji and grammar/conversation textbooks used by all participants (see Table 5.).

2. The expected result from the comparison between the students who have studied in Japan or only in Sweden is that the former exchange students will have acquired a larger vocabulary of *kango*. Their answers will, therefore, include a higher ratio of *kango* than the answers by the students who have only studied in Sweden.
3. Method and Material

A test consisting of a cued translation task was conducted in order to evaluate the lexical type of predominance between wago and kango in the vocabulary of Swedish learners of Japanese.

4.1 Participants

20 Swedish students participated in the experiment. All the participants were native Swedish speakers from a large Western university enrolled in either their third- or fifth- semester course of their Japanese bachelor’s degree. At the time of the experiment, 15 of the participants had received formal education in the Japanese language in Japan, whereas 6 of these had had approximately six months of formal education, and 9 had had approximately 12 months. 7 out of 20 participants were enrolled in the third- semester of Japanese language courses, an early intermediate level, while the remaining participants were enrolled in their fifth- semester of Japanese language course, which is at an early advanced level. The participants are all between the ages of 20 and 30, which should allow the difference of age to have less of an impact on the result. All participants had prior to the testing, during their first and second semester, studied the textbooks Kanji Look and Learn (“KLL”) (Banno, et al., 2009), Genki I (Banno, et al., 2011a), Genki II (Banno, et al., 2011b), having learned approximately 450 kanji characters during this period.

4.2 Material

The task was to write two Japanese equivalents for each of 40 Swedish words with hiragana (e.g. もり mori and しんりん shinrin for “skog”; eng. trl. “Forest”). The Swedish words were those that have two synonymous wago and kango equivalents found in the vocabulary list in KLL (Banno, et al., 2009). All the test materials consisted of 80 totals of wago and kango words divided into 40 pairs, retrieved from Kanji look and learn (Banno et al. 2009). The equivalents ranged in length from two to seven hiragana characters. Thirty-five of the equivalents (26 wago and 9 kango) also appeared in the combined vocabulary lists found in Genki I (Banno, et al., 2011a) and Genki II (Banno, et al., 2011b).

4.3 Method

The participants were tested individually online, in the form of a questionnaire and a translation task in a Microsoft Word file. They were told that they would be tested on their vocabulary knowledge, particularly, of Japanese synonyms. For the task, the kanji characters were ignored and instead, empty boxes for writing the Japanese equivalents of the Swedish word using Hiragana characters were shown. Each mora (quasi-syllabic unit in the Japanese sound system) represented one empty box (e.g. 2 boxes
for もり and 4 boxes for しんりん). The vocabulary knowledge of the participants was examined in a translation task, where the participants were asked to translate from their native tongue (Swedish) to Japanese. There were two types of cues in this task. The first type was the number of empty boxes indicating the number of hiragana characters to write the intended equivalent, which applied to all of the intended equivalents. The other type was limited to the intended equivalents that are adjectives or action nouns, to which an extra cue of endings was presented (i.e. the last mora -い -i was presented in case of an i-adjective, -な -na for a na-adjective and -する -suru for an action noun). See examples in Table 1. The test list consisted of 80 Japanese items and 40 Swedish items. In Nakayama’s research (2003), they perform recognition tasks and WFC tasks to see the priming effect of cognates on Japanese-Chinese bilinguals. In this paper, however, the exercises have been constructed in such a way that the participants will not be allowed to study the terms before the tests, as to not prime them on their word choice.

Table 1 Examples taken directly from the translation task (see Appendix I for complete list). The intended words taken from KLL (Banno et. Al, 2009) are (upper row) あたたかい (wago), and おんだんな (kango), as well as (lower row) かわる (wago) and へんかする (kango).

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In the distributed survey, a Swedish word was presented with two slots for typing in two equivalents of the designated number of hiragana in a word file (see Appendix I for complete list). The participants were asked to write in hiragana within the boxes highlighted, which indicated the number of syllables the translation should have (but not restricted to). The participants were also asked to complete the task within 10 to 15 minutes. The participants could return to previous questions if need be.

Table 2 Illustration of the translation task. The test items contain at the end a “translation cued-fragment” (see APPENDIX I for complete list)
5. Result & Analysis

In the following sections, results from all participants in the translation task will be presented in subsection 5.1, while further analysis of the differences among the third- and fifth-semester students will be made in subsections 5.2 and 5.3 respectively. For a complete list of all translations and the number of translations, see Appendix III. For both the third- and fifth-semester students, a two way between subjects ANOVA was conducted to compare the effects of time spent studying in Japan to one’s choice of wago and kango.

In the result of the translation task (see Appendix III), the answers were separated into three categories. The first category is the intended equivalents (“Warm”’s intended equivalent would be あたたかい), the second group are plausible equivalents with a synonymous meaning to the intended equivalent (warm; あたたかい and warm; あつい are synonyms) and answers that have an incorrect spelling and/or cannot semantically be used in the same way as the intended equivalents (for example あただかい would be incorrect).

<table>
<thead>
<tr>
<th>SWEDISH WORD</th>
<th>INTENDED EQUIVALENT</th>
<th>SYNONYMOUS EQUIVALENT</th>
<th>INCORRECT EQUIVALENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>VARMT</td>
<td>あたたかい</td>
<td>あつい</td>
<td>あただかい</td>
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The focus of this research is not to decipher if the participants’ answers will match the intended equivalents, but the overall usage of wago and kango. In this study, we will only be looking at the intended and the plausible equivalents.

5.1 Overall result

In Figure 2, the sum of all wago and kango answered by the 20 participants will be presented.
Out of the participants, 15 had received formal education in the Japanese language in Japan, whereas 6 of these had had approximately sixth months of formal education, and 9 had had approximately 12 months (also including overall time spent in the country or on vacation). Due to the participants mainly leaving for their exchange studies during the beginning of their third-semester, none of the participants in their third-semester of Japanese had studied and/or been in Japan for more than 6 months at the time of the experiment. The material for the experiment was taken directly from KLL (Banno, et al. 2009). Overall there were 71 wago and 52 kango for a total of 123 answers amongst the participants that were synonyms for intended translations, i.e., could be interchanged and retain the same meaning in a sentence (for example, Frukost (Breakfast): あさごはん (intended); あさめし). If all participants had perfect answers (as intended), there would have been 20 participants multiplied by 40 words which equal 800 wago and 800 kango, but there were 727 wago (89% of intended) and 386 ango (ca 48% of intended). Hence, within all the 1113 answers, 65% were wago and 35% were kango. Indicating an overall predominance towards wago rather than kango when translating.

When analyzing the ratio of wago to kango occurrences, each category of groups had a clear overrepresentation of wago (shown in Table 4).
As can be seen from Table 4, all of the items had a value above 100%, which indicates that all groups’ answers had a higher ratio of wago than kango (the value is gained from dividing the sum of intended and plausible wago with the sum of intended and plausible kango). The third-semester students who had not had any studies abroad in Japan produced the largest difference of wago to kango, 148% more wago than kango, whereas the fifth-semester students who had been studying in Japan between 6-12 months produced the lowest difference, 84%.

It can also be observed that the longer the period time that the participants had studied Japanese, the smaller the difference between the ratio of wago and kango translations become amongst the third-semester students, decreasing by 16 percent from 248% for the third-semester students in Sweden to 212% for the students that had studied in Japan for 6 months. This trend, however, was not exhibited by the fifth-semester students, retaining an even ratio amongst all three groups around 186%.

5.2 Third-semester students’ result

Out of the third-semester students, four had received formal education in the Japanese language in Japan, whereas the remaining three had had approximately sixth months of formal education (also including overall time spent in the country or on vacation). As previously stated, due to the participants mainly leaving for their exchange studies during the beginning of their third-semester, none of the participants in their third-semester of Japanese had studied and/or been in Japan for more than 6 months at the time of the experiment. The results of the translation task for the third-semester participants are shown in Figure 3. In the experiment, the students in their third-semester translated 237 times from the Swedish words into wago, and 105 times into kango. If all seven third-semester participants had perfect answers (as intended), it would be seven participants times 40 words, equivalent to 280 wago and 280 kango, but there were 237 wago (85% of intended) and 105 kango (ca 37% of intended). Hence, within the 342 answers, 69% were wago and 31% were kango.
In Figure 3, the average of the participants’ answers is shown as a function of the time spent abroad in Japan studying.

In terms of variation of answers, the answers which all of the students answered was: あさごはん (hirugohan, “frukost”), あたたかい (atatakai, “varmt”), あぶない (abunai, “farligt”), おとこ (otoko, “man”), おや (oya, “föräldrar”), おわり (owari, “slut”), おんな (onna, “kvinna”), かう (kau, “att köpa”), かわ (kawa, “flod”), くるま (kuruma, ”bil”), けす (kesu, “att radera”), たつ (tatsu, “att ställa sig upp”), たべもの (tabemono, “mat”), つかう (tsukau, “att använda”), ともだち (tomodachi, “vän; vänner”), ゆうじん (yuujin, “vän; vänner”), ひるごはん (hirugohan, “lunch”), もり (mori, “skog”) and わかもの (wakamono, “barn”). Out of these 19 words, 18 are wago and 1 is kango. Additionally, the four words no participant answered on was しょうきょする (shoukyo-suru, “att radera”), きりつする (kiritsu-suru, “att ställa sig upp”), じゃくはい (jakuhai, “unga personer”) and きゅうそくする (kyuusokusuru, ”att vila”). All four of these are kango.

If we now turn to the differences amongst the students who studied in Japan and students who only studied in Sweden, based on the average answers from the groups, the students that had studied in Japan had a higher score rating than the students who lived only in Sweden in kango (see Figure 4).
5.2.1 Result from data analysis

![Average Answers for Third Semester Students](image)

**Figure 4 The distribution of *wago* and *kango* words between third-semester students**

The mean score for the three students with no formal education in Japanese abroad was 33 *wago* and approximately 35 for the four students with 6 months of studies abroad (a 4.3% difference). For the *kango*, the average score was 13 for students with no formal education in Japan and 16 for students who had studied 6 months in Japan (a difference by approximately 23%). Based on the average response for each category, there was only a 22% difference between the highest and lowest response of *kango* between the two groups and a 4.5% difference between the highest and lowest response of *wago* (depicted in Figure 6). Individually, the participant who had the highest number of correct equivalents had out of 80 answers 56 correct (34 *wago* and 22 *kango*), whereas the participant with the lowest number of correct translations (both intended and plausible equivalents) had 39 translation (31 *wago* and 8 *kango*). Both aforementioned participants belonged to the category of students who had had no experience studying abroad. Furthermore, a two way between subjects’ ANOVA was conducted to compare the effects of one’s duration (0 months and 6 months) spent in Japan to the number of translations of *wago* and *kango*. Due to the unequal variance of sample size, six of eight random samples from the six months participants were used in order to minimize the type 1 errors.

Data analysis of variance (ANOVA, with a p=.05) revealed that there was no significant effect of duration spent in Japan on choice of lexical type *wago* or *kango* for the third-semester students. $F(1, 8) = 1.389$, p=0.272.
5.3 Fifth-semester students’ result

Turning now to the fifth-semester students, a similar trend as shown in Figures 3 and 4 can be observed in Figures 5 and 6. In the experiment, the students in their fifth-semester translated 490 times from the Swedish words into wago, and 265 times into kango. If all thirteen fifth-semester participants had perfect answers (as intended), there would be thirteen participants times 40 words, equivalent to 520 wago and 520 kango, but there were 490 wago (ca 94% of intended) and 265 kango (ca 50% of intended). Hence, within the 755 answers, 65% were wago and 35% were kango.

![Figure 5: The sums of wago and kango equivalents from the fifth-semester students](image)

In terms of variations of answers, the words which each of the fifth-semester students answered was: あさごはん (hirugohan, “frukost”), あたたかい (atatakai, “varmt”), あぶない (abunai, “farligt”), いたみ (itami, “smärta”), おわり (owari, “slut”), おんな (onna, “kvinna”), かう (kau, “att köpa”), かわ (kawa, “flod”), くだもの (kudamono, “frukt”), くるま (kuruma, “bil”), けす (kesu, “att radera”), しわせな (shiwasena, “lycklig”), たつ (tatsu, “att ställa sig upp”), たべもの (tabemono, “mat”), つかう (tsukau, “att använda”), しつもん (shitsumon, “fråga”), ともだち (tomodachi, “vän; vänner”), ひるごはん (hirugohan, “lunch”), ふし (mushi, “insekt”) and わかもの (wakamono, “barn”). Out of these 20 words, 19 are wago and 1 is kango. Additionally, like for the third-semester students, the four words no participant answered on was しょうきょする (shoukyo-suru, “att radera”), きりつする (kiritsu-suru, “att ställa sig upp”), じゃくはい (jakuhai, “unga personer”) and きゅうそくする (kyuusokusuru, “att vila”). All four of these are kango.
5.3.2 Result from data analysis

![AVERAGE ANSWERS FOR FIFTH SEMESTER STUDENTS]

**Figure 6** The average of the answers for the fifth-semester students as a function of time spent abroad in Japan (in months)

The response amongst the fifth-semester students was similar to the third-semester students as the result indicating a predominance towards translating to *wago*. Based on the average response for each category, regardless of their study background, there was only a 3% difference between the highest and lowest response of *kango* and the highest and lowest response of *wago* (depicted in Figure 6 and Table 4). Individually, the participant who had the highest number of correct equivalents had out of 80 answers 72 correct (*39 wago* and *33 kango*), whereas the participant with the lowest number of correct translations (both intended and plausible equivalents) had 38 translation (*36 wago* and *2 kango*). Both participants belonged to the category of students who had studied abroad for 6-12 months. Furthermore, like previously, a two way between subjects ANOVA was conducted to compare the effects of one’s duration (0 months, 6 months and 12 months) spent in Japan to the number of translations of *wago* and *kango*. Due to the unequal variance of sample size, only four samples were taken from the group of students with 12 months of time spent in Japan.

Data analysis of variance (ANOVA, with a p=.05) revealed that there was no significant difference between duration spent in Japan and choice of lexical type *wago* or *kango* for F(2,6) = 1.131, p=0.383.
6. Discussion/Conclusion

The current study aimed to determine if there is a predominance of wago over kango in the vocabulary of Swedish learners of Japanese. In addition, to observe what tendencies are exhibited between participants who have studied Japanese in Japan or only in Sweden.

As could be seen from the overall result, participants from each subgroup tended to favor wago translations over kango translations (see Figures 2, 3 and 5). Without making a distinction if the participants had at one point studied in Japan or not, if all participants had perfect answers (as intended), there would have been 20 participants multiplied by 40 words which equal 800 wago and 800 kango, but there were 727 wago (89% of intended) and 386 kango (ca 48% of intended). Hence, within all the 1113 answers, 65% were wago and 35% were kango. These findings, therefore, indicate an overall predominance towards wago rather than kango when translating.

When comparing the participants who have studied in Japan and those who have only studied in Sweden, it was, however, revealed that only a minor difference could be observed. Surprisingly, regardless of their time spent in Japan, the ratio of wago to kango answers for the fifth-semester students were seemingly even, with an approximately 186% ratio of wago to kango for each group (see Table 4). For the third-semester students, as Table 4 shows, there is a difference: 212% ratio of wago and kango usage for participants that have studied in Japan and 248% for those who have not. It is important to note that when looking at the fifth-semester students, regardless of their time spent in Japan, a noticeable difference between their usage of wago and kango could not be observed, contradictory to the third-semester students. This is further supported by the ANOVA analysis, indicating no significant difference between the groups for the duration of time spent in Japan. Therefore, the findings in this study have been unable to prove the hypothesis as it could not demonstrate that studying in Japan can contribute to a difference in the students’ usage of wago and kango.

Interestingly, among the words that are prioritized to be learned first in KLL (Banno, et al., 2009), there was an overwhelming amount of wago words being utilized.

<table>
<thead>
<tr>
<th>WORDS TO BE MEMORIZED IN KLL</th>
<th>WAGO</th>
<th>KANGO</th>
</tr>
</thead>
<tbody>
<tr>
<td>(BANNO ET AL., 2009)</td>
<td>78%</td>
<td>25%</td>
</tr>
<tr>
<td>APPEARANCE IN GENKI I AND II</td>
<td>70%</td>
<td>25%</td>
</tr>
<tr>
<td>(BANNO, ET AL., 2011A) (BANNO, ET AL., 2011B)</td>
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</tbody>
</table>
Out of 40 wago words used, 78% of the intended equivalents (see Table 5) were marked as priority words, denoted with grey marking within the book. The corresponding percentage for kango words was 25%. Conversely, the most frequent equivalents were all from the study material which appears in both KLL (Banno, et al., 2009) and the combined glossary of Genki I (Banno, et al., 2011a) and Genki II (Banno, et al., 2011b). There were 14 out of the 80 intended equivalents which each of the 20 participants translated to. Each of these equivalents appears in the glossary in Genki I (Banno, et al., 2011a) and Genki II (Banno, et al., 2011b), (see Appendix II and III). The equivalents which 19 of the participants chose were also words that appeared in the glossary in Genki I (Banno, et al., 2011a) and Genki II (Banno, et al., 2011b). These findings are consistent with the reasoning of Igarashi (2007). As mentioned earlier, Japanese language learners will typically have a higher usage of wago, due to their early exposure of words written in hiragana (Igarashi, 2007). However, as their studies progress, their increasing usage of kanji should resolve in an increase of exposure to kango (as seen in the comparison between the third- and fifth- semester students, as the longer the progression of studies in Japanese, the less difference occurs between their translation into wago and kango).

This paper set out to investigate two questions: is there is a lexical type predominance of wago and kango within the vocabulary of Swedish learners of Japanese? And if so, what kind of differences in the degree of predominance is observed according to the learners’ study history (length of formal education, experience of study in Japan) and lexical familiarity? In this paper, the test proved the first hypothesis that participants will most likely tend to translate the Swedish words into the corresponding wago as it could identify a tendency of predominance for wago translations for Japanese L2 speakers when translating from Swedish. The findings in this study have, however, been unable to give any conclusive evidence for the second hypothesis as it could not demonstrate that studying in Japan can contribute to a difference in the students’ usage of wago and kango.

However, it is important to note, that this study may contain bias as the research had primarily focused on the translation capabilities and word associations between the participants’ Swedish lexicon and Japanese lexicon, instead of the depth of word knowledge.

At the beginning of this experiment, there was a time interval since some of the participants had last been to Japan. However, this factor did most likely not play a major role in affecting the result as the now mentioned participants were either currently in Japan and a minor period of time had passed from their return to the day they performed the task, all whilst having actively studied Japanese at their home university.

The relatively limited sample notwithstanding, this work offers valuable insight into the translation preferences for wago and kango for non-native speakers of Japanese with a non-kanji background.
For future reference, research questions that could be asked include how similar participants would act if they were asked to do a sentence completion task instead of a cued translation task. A task that could be asked of the participants could be to fill in the appropriate wago and kango equivalents, based on the context of the sentence, (e.g. according to Igarashi (2007), “breakfast”, a wago equivalent 朝ごはん asagohan is produced in a more informal/colloquial context and a kango equivalent 朝食 choushoku for a formal/written language context). This would allow researchers to determine the depth of knowledge of the lexical entities and hopefully provide a different account on the general knowledge of wago and kango words used in a practical scenario.
List of references


## Appendix I: questionnaire

### Translation task

Complete list translation task the participants performed.

<table>
<thead>
<tr>
<th>Example</th>
<th>Tecken 1</th>
<th>Tecken 2</th>
<th>Tecken 3</th>
<th>Tecken 4</th>
<th>Tecken 5</th>
<th>Tecken 6</th>
<th>Tecken 7</th>
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</thead>
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<td>Varje år</td>
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<td>Annat att tänka på</td>
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<td>litet tsu räknas som ett tecken</td>
<td>や、ゆ、よ</td>
<td>Små や、ゆ、よ räknas inte som egna tecken (ちゅうごく = 4 tecken)</td>
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### Svenska | Japanska

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<tr>
<th></th>
<th>Tecken 1</th>
<th>Tecken 2</th>
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<th>Tecken 4</th>
<th>Tecken 5</th>
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</table>
Appendix II: List of target words and their intended wago and kango equivalents

All wago and kango equivalents have been taken from KLL (Banno, et al, 2009). Those in bold letters are marked to be memorized in the book. The words here are presented in katakana, Kanji and then romaji.

<table>
<thead>
<tr>
<th>Swedish</th>
<th>Intended wago equivalents</th>
<th>Intended kango equivalents</th>
<th>Appear in the glossary of Genki I/Genki II (Banno, et al, 2011a, 2011b)</th>
</tr>
</thead>
</table>
| 1. Frukost | アサゴハン
朝ごはん
asagohan | チョウショク
朝食
choushoku | アサゴハン |
| 2. Varmt | アタタカイ
暖かい
atatakai | オンダンな
温暖な
ondan-na | アタタカイ |
| 3. Farligt | アブナイ
危ない
Abunai | キケンな
危険な
kiken-na | アブナイ |
| 4. Krig | イクサ
戦
Ikusa | センソウ
戦争
sensou | センソウ |
| 5. smärta | イタミ
痛み
Itami | クツウ
苦痛
kutsuu |  |
| 6. att skicka (ett meddelande) | オクル
送る
Okuru | ソウシンする
送信する
soushin-suru | オクル |
| 7. Man | オトコ
男
Otoko | ダンセイ
男性
dansei | オトコ |
| 8. Föräldrar | オヤ
親
Oya | リョウシン
両親
ryoushin | オヤ
リョウシン |
| 9. slut | オワリ
終わり
owari | シュウリョウ
終了
shuuryou | オワル |
| 10. Kvinna | オンナ
女
Onna | ジョセイ
女性
josei | オンナ |
| 11. Att köpa | カウ
買う
Kau | コウニュウする
購入する
Kounyuu-suru | カウ |
<p>| 12. flod | Kawa | Kasen | Kawa |
| 13. något förändras | Kawaru | Henka-suru | Kawaru |
| 14. Att tänka på | Kangaeru | Shikou-suru | Kangaeru |
| 15. Att bestämma (något) | Kimoru | Kettei-suru | Kimoru |
| 16. Apotek | Kusuriya | Yakkyoku | Kusuriya |
| 17. Frukt | Kudamono* | Kajitsu | Kusuriya |
| 18. Bil | Kuruma | Jidousha | Kuruma |
| 19. Att radera | Kesu | Shoukyo-suru | Kesu |
| 20. Svar | Kotae | Kaitou | Kotae |
| 21. Lycklig | Shiawase-na | Koufuku-na | Shiawase-na |
| 22. Allt | Subete | Zenbu | Subete |
| 23. Att Ställa sig upp | Tatsu | Kiritsu-suru | Tatsu |
| 24. Att se fram emot; att hoppas på | Tanoshimi-ni-suru | Kitai-suru | Tanoshimi |
| 25. Resa | Tabi | Ryoukou | Tabi |
| 26. Mat | Tabemono | Shokuryouhin | Tabemono |</p>
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<td>問い</td>
<td>Toi</td>
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<td>友達</td>
<td>tomodachi</td>
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<td>ワカモノ</td>
<td>若者</td>
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* _ are for kanji with an irregular reading
Appendix III: Overall result of the translation task by 20 participants

Table 6 - Result of the translation task and variation of translation between the 20 participants

<table>
<thead>
<tr>
<th>Swedish word</th>
<th>Answers coherent with the appendix</th>
<th>Accurate translations differing from appendix</th>
<th>Incorrect translations</th>
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* Words in bold type are a combination of Japanese-based reading (kun’yomi) and Chinese-based reading (on’yomi).