



INSTITUTIONEN FÖR SPRÅK OCH
LITTERATURER

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

A cued translation task involving *wago* and *kango*
synonyms

Marcus Burman

Humanitarian faculty University of Gothenburg

Essay/Thesis:	15 hp
Program and/or course:	JP1520
Level:	Undergraduate
Semester/year:	Ht/2019
Supervisor:	Fusae Takasaki Ivarsson
Examiner:	Lars Lam

Abstract

Essay/Thesis:	15 hp
Program and/or course:	JP1520
Level:	Undergraduate
Semester/year:	Ht/2019
Supervisor:	Fusae Takasaki Ivarsson
Examiner:	Lars Larm
Keywords:	Sino-Japanese words, <i>Kango</i> , <i>Wago</i> , Japanese, Translation task

- 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.

Gothenburg, December 2019

Marcus Burman

Table of contents

Acknowledgments	3
1. Introduction	1
2. Theory	1
2.1 <i>wago</i> and <i>kango</i>	1
2.2 Word recognition processing.....	2
2.3. Previous research.....	4
3. Presentation of problems	7
3.1. Aim and research questions.....	7
3.1.1. Hypothesis.....	7
4. Method and Material	8
4.1 Participants	8
4.2 Material	8
4.3 Method	8
5. Result & Analysis.....	10
5.1 Overall result	10
5.2 Third- semester students' result	12
5.2.1 Result from data analysis	14
5.3 Fifth- semester students' result.....	15
5.3.2 Result from data analysis	16
6. Discussion/Conclusion	17
List of references.....	20
Appendix I: questionnaire	22
Translation task	22
Appendix II: List of target words and their intended <i>wago</i> and <i>kango</i> equivalents	25
Appendix III: Overall result of the translation task by 20 participants	28

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.

'The relationship between Sino-Japanese words and native Japanese words in the Japanese vocabulary can be compared to words of Latin/Greek origins and Anglo-Saxon words in the English vocabulary; the Sino-Japanese word sankyaku

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.

	study item	test fragment	transcription
identical-cognate	健康	__んこう	健康
similar-cognate	経験	けい__ん	経験
non-cognate	问候	__いさつ	挨拶

Figure 1 Example of the stimuli task in Nakayama's (p. 187, 2002) experiment

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.

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).

		Tecken 1	Tecken 2	Tecken 3	Tecken 4	Tecken 5	Tecken 6	Tecken 7
Varmt	1.					い		
	2.					な		
<Någöt> förändras	1.							
	2.				す	る		

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)

LEXICAL ITEM (SWEDISH)	JAPANESE ITEM	TEST ITEMS					
WAGO (VARMT)	- NOT SHOWN -	- SHOWN -					
	あたたかい (暖かい)	<table border="1" style="display: inline-table; vertical-align: middle;"><tr><td></td><td></td><td></td><td></td><td>い</td></tr></table>					い
				い			
KANGO (VARMT)	おんだんな (温暖な)	<table border="1" style="display: inline-table; vertical-align: middle;"><tr><td></td><td></td><td></td><td></td><td>な</td></tr></table>					な
				な			
KANGO (“NÅGOT FÖRÄNDRAS”)	へんかする (変化する)	<table border="1" style="display: inline-table; vertical-align: middle;"><tr><td></td><td></td><td></td><td>す</td><td>る</td></tr></table>				す	る
			す	る			

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 (“*Varmt*”’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 3 Example of different types of answers

SWEDISH WORD	INTENDED EQUIVALENT	SYNONYMOUS EQUIVALENT	INCORRECT
VARMT	あたたかい	あつい	あただかい

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.

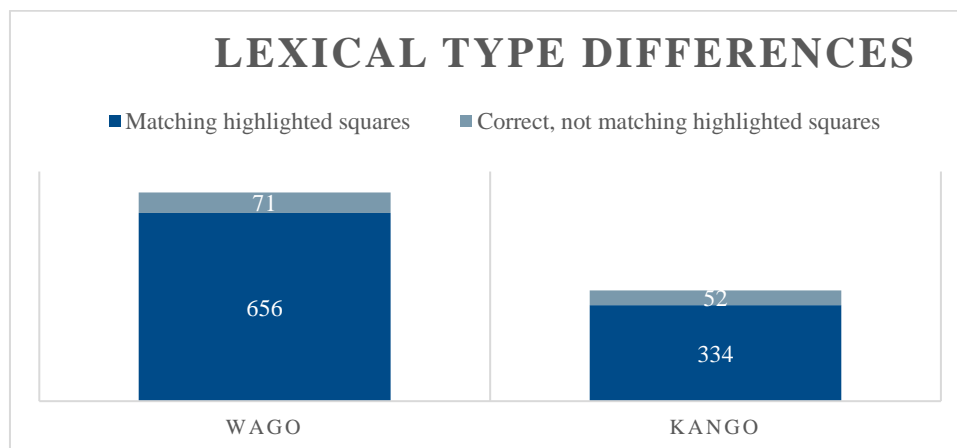


Figure 2 The sums of *wago* and *kango* equivalents from all participants

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 nswers, 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).

Table 4 Ratio of *wago* to *kango* words as it appears in each group

Participants	Only in Sweden	0-6 months in Japan	6-12 months in Japan
5th semester	185%	188%	184%
3rd semester	248%	212%	N/A

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*.

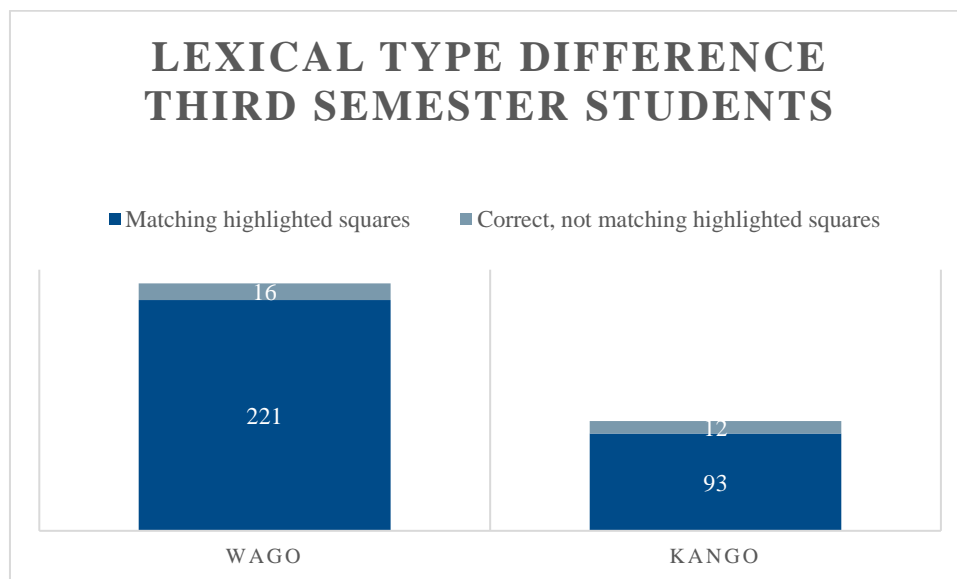


Figure 3 The sums for *wago* and *kango* equivalents from third- semester students

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 (*atataikai*, "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 (*jakuhei*, "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

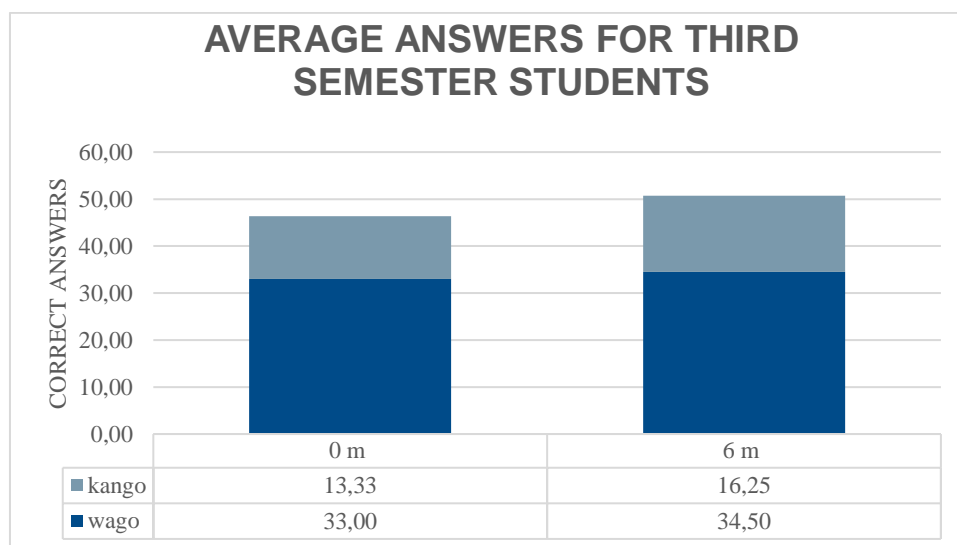


Figure 4 The distribution of *wago* and *kango* words between third- semester students

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*.

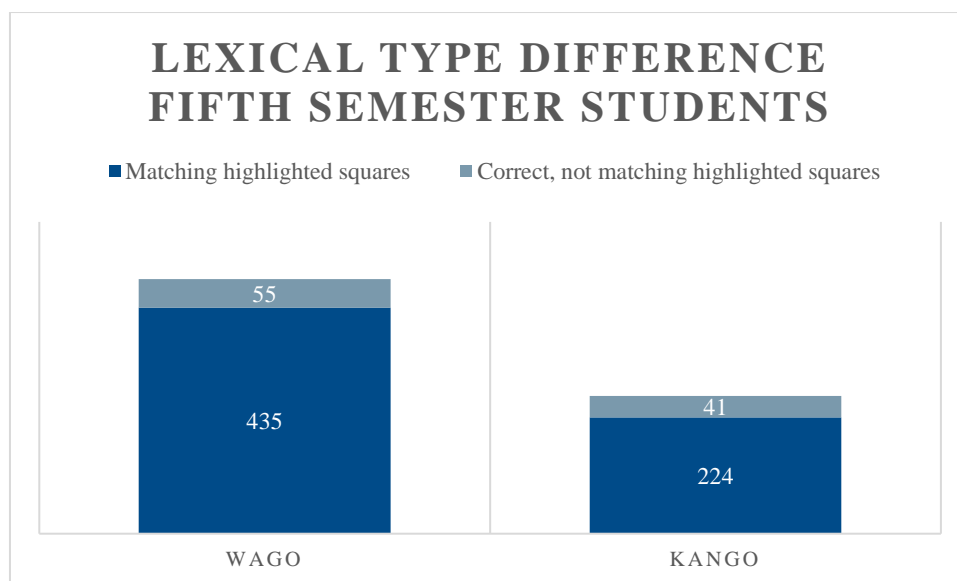


Figure 5 The sums of *wago* and *kango* equivalents from the fifth- semester students

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 (*atataikai*, “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”), しあわせな (*shiawasena*, “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”), むし (*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 しょうきよする (*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

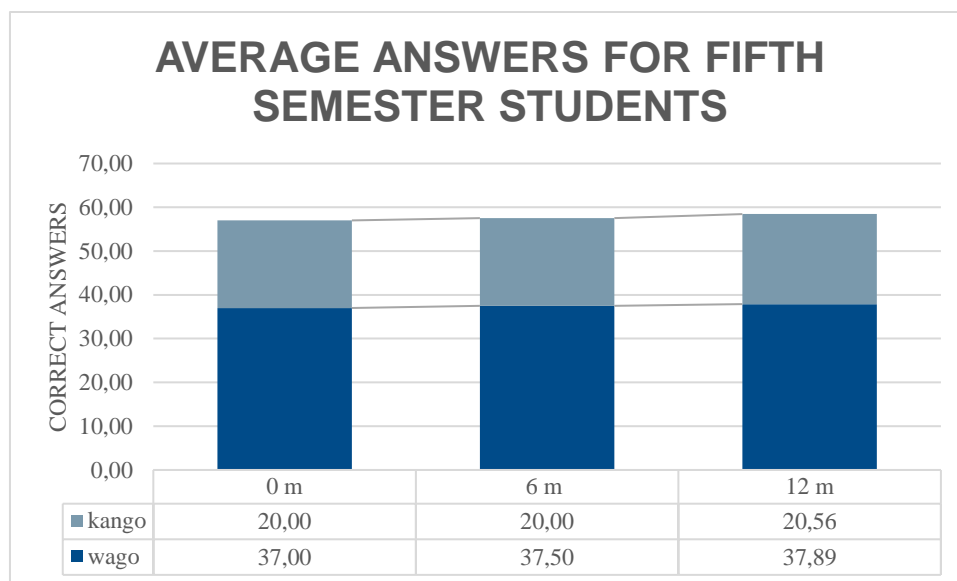


Figure 6 The average of the answers for the fifth- semester students as a function of time spent abroad in Japan (in months)

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 5 Distribution amongst the chosen *wago-kango* pairs in *KLL* (Banno et al. 2009) and *Genki I* (Banno, et al., 2011a) and *Genki II* (Banno, et al., 2011b).

	<i>WAGO</i>	<i>KANGO</i>
WORDS TO BE MEMORIZED IN <i>KLL</i> (BANNO ET AL., 2009)	78%	25%
APPEARANCE IN <i>GENKI I</i> AND <i>II</i> (BANNO, ET AL., 2011A) (BANNO, ET AL., 2011B).	70%	25%

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

- Banno, E., Ikeda, Y., Ohno, Y., Shinagawa, C. and Tokashiki, K. (2011a). *Genki: an integrated course in elementary Japanese (second edition)*. Tokyo: The Japan Times.
- Banno, E., Ikeda, Y., Ohno, Y., Shinagawa, C. and Tokashiki, K. (2011b). *Genki II: an integrated course in elementary Japanese (second edition)*. Tokyo: The Japan Times.
- Banno, E., Ikeda, Y., Shinagawa, C., Tajima, K. and Tokashiki, K. (2009). *Kanji look and learn, 512 kanji with illustrations and mnemonic hints* Tokyo: The Japan Times.
- Beauvillian, C and Grainger, J, (1987). *Assessing interlexical homographs: some limitations of a language-selective access*. URL: <https://search.proquest.com/docview/1297342167?pq-origsite=gscholar>
- De Groot. A. M. B. (1992). *Determinants of Word translation*, university of Amsterdam, Amsterdam, The Netherlands. *Journal of Experimental Psychology; Learning, Memory; and Cognition* 1992. Vol. 18. No. 5. 1001-1018. URL: https://www.researchgate.net/profile/Annette_Groot/publication/232521607_Determinants_of_Word_Translation/links/56eac2c308aec6b500162e24/Determinants-of-Word-Translation.pdf
- Grosjean, F. (2014). *Bicultural Bilinguals*. *International journal of bilingualism* 2015, vol. 19. URL: https://journals.sagepub.com/doi/pdf/10.1177/1367006914526297?casa_token=Jblamg7ghsQAAAAA%3AEbruuugywga2HR9QahiSSHvtPLRUeqNhvFXEEdfVM7_5Ld6yNxF2MZU49Cmlk632f2ip17hERxPRFw&
- Igarashi, Y. (2007). *The Changing Role of Katakana in the Japanese Writing System: Processing and Pedagogical Dimensions for Native Speakers and Foreign Learners*, University of Victoria (Canada), ProQuest Dissertations Publishing, 2007. NR41190. URL: <https://dspace.library.uvic.ca:8443/bitstream/handle/1828/189/PhD%20dissertation.pdf?sequence=1&sAllowed=y>
- Ivarsson, F. (2016). "A study of L2 kanji learning process, Analysis of Reading and Writing Errors of Swedish Learners in Comparison with Level-matched Japanese Schoolchildren." University of Gothenburg, Print: Repocentralen, Campusservice Lorensberg.
- Jin, H. and Yokosawa, K. (2007). *The attribute of language-switching in Chinese-Japanese bilinguals' word recognition*, *The Japanese journal of psychonomic science* 2007, vol. 25, No. 2, 279-280)
- Marian, V. & Spivey, M. (2003). *Competing activation in bilingual language processing: Within- and between-language competition*. *Language and cognition* 6 (2). URL: <https://pdfs.semanticscholar.org/e993/917a4eb1c72099436822d5f61f4655bef9d2.pdf>
- Nakayama, M. S. (2002) *The cognate status effect in lexical processing by Chinese-Japanese bilinguals*, *psychologia*, 2002, 45, 184-192.
- National Institute for Japanese Language and Linguistics, 2009. "Vocabulary used in children's writing" Report 98, 1989. Tokyo Shoseki Co., Ltd. An introduction to the National institute for

Japanese language: A sketch of its achievements fifth- edition (2009). URL:
<http://doi.org/10.15084/00001585>.

Walter, C., (2004). *Transfer of reading comprehension skills to L2 is linked to mental representations of text and to L2 working memory*. Oxford university press, applied linguistics 25/3: 315-339.

Appendix I: questionnaire

Translation task

Complete list translation task the participants performed.

Example		Tecken 1	Tecken 2	Tecken 3	Tecken 4	Tecken 5	Tecken 6	Tecken 7
Varje år	1.	ま	い	と	し			
	2.	ま	い	ね	ん			
Annat att tänka på	つ	litet tsu räknas som ett tecken						
	や、 ゆ、 よ	Små や、ゆ、よ räknas inte som egna tecken (ちゅうごく = 4 tecken)						
Svenska		Japanska						
		Tecken 1	Tecken 2	Tecken 3	Tecken 4	Tecken 5	Tecken 6	Tecken 7
Frukost	1.							
	2.							
Varmt	1.					い		
	2.					な		
Farligt	1.				い			
	2.				な			
Krig	1.							
	2.							
Smärta	1.							
	2.							
Att skicka (ett meddelande)	1.							
	2.					す	る	
Man	1.							
	2.							
Föräldrar	1.							
	2.							
Slut	1.							

	2.									
Kvinna	1.									
	2.									
Att köpa	1.									
	2.						す	る		
Flod	1.									
	2.									
<något> förändras	1.									
	2.						す	る		
Att tänka på	1.									
	2.						す	る		
Att bestämma (något)	1.									
	2.						す	る		
Apotek	1.									
	2.									
Frukt	1.									
	2.									
Bil	1.									
	2.									
Att radera	1.									
	2.						す	る		
Svar	1.									
	2.									
Lycklig	1.							な		
	2.							な		
Att ställa sig upp	1.									
	2.						す	る		
Att se fram emot; att hoppas på	1.							に	す	る
	2.						す	る		
Resa	1.									
	2.									
Mat	1.									
	2.									
Skillnad	1.									

	2.								
Att använda	1.								
	2.					す	る		
En fråga	1.								
	2.								
Vänner	1.								
	2.								
Namn	1.								
	2.								
Lunch	1.								
	2.								
Inte alls	1.								
	2.								
Att bjuda in <någon>	1.								
	2.					す	る		
Alla (personer)	1.								
	2.								
Skog	1.								
	2.								
Insekt	1.								
	2.								
Att vila	1.								
	2.					す	る		
Att korsa	1.								
	2.					す	る		
Unga personer	1.								
	2.								
Allt (saker)	1.								
	2.								

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.

Swedish	Intended <i>wago</i> equivalents	Intended <i>kango</i> equivalents	Appear in the glossary of <i>Genki I/Genki II</i> (Banno, et al, 2011a, 2011b)
1. Frukost	アサゴハン 朝ごはん asagohan	チョウシヨク 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

12. flod	カワ 川 Kawa	カセン 河川 kasen	カワ
13. något förändras	カワル 変わる Kawaru	ヘンカする 変化する henka-suru	カワル
14. Att tänka på	カンガエル 考える kangaeru	シコウする 思考する shikou-suru	カンガエル
15. Att bestämma (något)	キメル 決める Kimeru	ケツテイする 決定する kettei-suru	キメル
16. Apotek	クスリヤ 薬屋 kusuriya	ヤッキョク 薬局 yakkyoku	
17. Frukt	クダモノ* 果物 kudamono	カジツ 果実 Kajitsu	
18. Bil	クルマ 車 Kuruma	ジドウシャ 自動車 jidousha	クルマ
19. Att radera	ケス 消す Kesu	ショウキョする 消去する shoukyo-suru	
20. Svar	コタエ 答え Kotae	カイトウ 回答 kaitou	コタエ
21. Lycklig	シアワセな 幸せな shiwase-na	コウフクな 幸福な koufuku-na	シアワセな
22. Allt	スベテ 全て Subete	ゼンブ 全部 zenbu	ゼンブ
23. Att Ställa sig upp	タツ 立つ Tatsu	キリツする 起立する kiritsu-suru	タツ
24. Att se fram emot; att hoppas på	タノシミにする 楽しみにする tanoshimi-ni-suru	キタイする 期待する kitai-suru	タノシミ
25. Resa	タビ 旅 Tabi	リョコウ 旅行 ryokou	リョコウ
26. Mat	タベモノ 食べ物 tabemono	ショクリョウヒン 食料品 shokuryouhin	タベモノ

27. Skillnad	チガイ 違い Chigai	ソウイ 相違 soui	チガイ
28. Att använda	ツカウ 使う Tsukau	シヨウする 使用する shiyou-suru	ツカウ
29. Fråga	トイ 問い Toi	シツモン 質問 shitsumon	シツモン
30. Vän; Vänner	トモダチ 友達 tomodachi	ユウジン 友人 yuujin	トモダチ ユウジン
31. Namn	ナマエ 名前 Namae	シメイ 氏名 shimei	ナマエ
32. Lunch	ヒルゴハン 昼ごはん hirugohan	チュウシヨク 昼食 chuushoku	ヒルゴハン
33. Inte alls	マッタク 全く mattaku	ゼンゼン zenzen	ゼンゼン
34. Att bjuda in	マネク 招く Maneku	シヨウタイする 招待する shoutai-suru	シヨウタイする
35. Alla	ミナ 皆 Mina	ゼンイン 全員 zenin	ミナ ゼンイン
36. Skog	モリ 森 Mori	シンリン 森林 shinrin	
37. Insekt	ムシ 虫 Mushi	コンチュウ 昆虫 konchuu	ムシ
38. Att vila	ヤスム 休む Yasumu	キュウソクする 休息する kyuusoku-suru	ヤスム
39. att korsa	ヨコギル 横切る yokogiru	オウダンする 横断する oudan-suru	
40. unga personer	ワカモノ 若者 wakamono	ジャクハイ 若輩 jaku hai	

*_ 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

Swedish word	Answers coherent with the appendix		Accurate translations differing from appendix	Incorrect translations
		Quantity	Quantity	Quantity
Frukost	Wago	あさごはん 20	あさめし 4	しょうしょく 1
	Kango	ちょうしょく 8		
Varmt	Wago	あたたかい 20	あたたかな 1	
	Kango	おんだんな 6	あつい 3	
Farligt	Wago	あぶない 20		けけんな 1
	kango	きけんな 12		
Krig	Wago	いくさ 6	あらそい 1	
	Kango	せんそう 20	たたかい 1 こうせん 1	せんそ 2
Smärta	Wago	いたみ 17	いたい 3	くるし 1
	Kango	くつう 6		くやさ 1
Att skicka (ett meddelande)	Wago	おくる 17	とどける/とどく 3	おこる 1
	Kango	そうしんする 1	へんしんする 2 はっそうする 1 れんらくする 3	
Man	Wago	おとこ 19	かれ 1	
	Kango	だんせい 15	だんし 1	だんじょう 1
Föräldrar	Wago	おや 19		
	Kango	りょうしん 18	ふぼ 1	しんせき 1
Slut	Wago	おわり 17	さいご 1	あいすむ 1
	Kango	しゅうりょう 7	おしまい 1 けつまつ 1 しゅうまつ 1	さいごう 1 おせまじ 1
Kvinna	Wago	おんな 20		

	Kango	じょせい	16	ふじん	1		
				かのじょ	1		
Att köpa	Wago	かう	19	かいものする	9	はる	1
	Kango	こうにゆうする	4				
Flod	Wago	かわ	19			にわ	1
	Kango	かせん	2				
< Något > Förändras	Wago	かわる	15	かえる	4	かんこ	1
	Kango	へんかする	13			へんこ へんじする かんする	1 1 1
Att tänka på	Wago	かんがえる	18	おもう	1	なやむ	1
	Kango	しこうする	2				
Att bestämma < något >	Wago	きめる	15	きまる	3		
	Kango	けっていする	5	けっする はんだんする	1 1		
Apotek	Wago	くすりや	11	やくしゅや	1	びょういん	1
	Kango	やっきよく	8			やっきょう	1
Frukt	Wago	くだもの	20			みのる	1
				み	1		
Kango		かじつ	5				
	Wago	くるま	20			じどうさ	1
Bil	Kango	じどうしゃ	11	しゃ	1	じてんしゃ じどうし	1 1
Att radera	Wago	けす	20			へんかする	1
	Kango	しょうきよする	0	さくじよする	2	けしょう しょうひする	1 1
Svar	Wago	こたえ	18			へんこう	2
	Kango	かいとう	7	へんじ へんしん	2 1	へんし	1
Lycklig	Wago	しあわせな	19	うれしい よろこぶ	1 2		
	Kango	こうふくな	7				
Allt	Wago	すべて	14	みんな	1		
	Kango	ぜんぶ	18				

Att ställa sig upp	Wago	たつ	20		あがる	1	
	Kango	きりつする	0	たちあがる	1		
Att se fram emot; att hoppas på	wago	たのしみにする	10		ねがう	1	
	Kango	きたいする	3	きぼうする	1	ねがいはする	2
Resa	Wago	たび	16		りよこ	1	
	Kango	りよこう	18		りょうこ	1	
Mat	Wago	たべもの	20	めし			
	Kango	しょくりょうひん	2	しょくじ	1		
					しょくひん	1	
					しょくりょう	2	
Skillnad	Wago	ちがい	14	ちがう	2	ちがさ	1
	Kango	そうい	4	くべつ	1	くらべ	1
				さ	1	さが	1
						てんさ	1
Att använda	Wago	つかう	20				
	Kango	りょうする	5				
		しょうする	8				
Fråga	Wago	とい	5		きき	1	
					だい	1	
	Kango	しつもん	19	もんだい	1		
				ぎもん	1		
Vän; vänner	Wago	ともだち	20		なかよい	1	
	Kango	ゆうじん	16	しんゆう	1	ゆうじん	1
Namn	Wago	なまえ	19	めいしょう	1	めいし	1
				Kango	しめい	10	みょうじ
	Lunch	Wago	ひるごはん	20	ひるめし	5	じゅうしょく
Kango		ちゅうしょく	8			く	1
							しゅうしょく
						く	1
Inte alls	Wago	まったく	1	けっして	2	なんにも	1
				あまり	1		
				あんまり	1		
				なんとも	1		
				ちっとも	1		
	ちよっとも	1					
Kango	ぜんぜん	18	とうてい	1			

Att bjuda in		まねく	2	さそう	15	さそる	1
	Wago			よぶ	1	ゆうはつず る	1
	Kango	しょうたいする	7			おごる	1
Alla	Wago	みなさん	5	みんな	17	ぜんぶ	1
	Kango	ぜんいん	11	まんにん	1	ぜいん	
Skog	Wago	もり	20	はやし	1	りんりん	1
	Kango	しんりん	10				
Insekt	Wago	むし	19	むしけら	1	こんじゅう	1
	Kanog	こんちゅう	3				
Att vila		やすむ/やすみ	15	やすめる	1	りらくする	1
	Wago			ねむる	2		
	Kango	きゅうそくする	0	きゅうけいす る	6		
Att korsa		よこぎる	2	こえる	1	よこびる	1
	wago			わたる	1		
	kango	おうだんする	3	まじわる	3		
Unga personer	wago	わかもの	20	としわか	1	じゅねん	1
	kango	じゃくはい	0	しょうねん	1	してい	1
				せいねん	2		

* Words in bold type are a combination of Japanese-based reading (kun'yomi) and Chinese-based reading (on'yomi).