The Changing Role of *Katakana* in the Japanese Writing System: Processing and Pedagogical Dimensions for Native Speakers and Foreign Learners

by

Yuko Igarashi
B.A., University of Victoria, 2001
M.A., University of Victoria, 2004

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ABSTRACT

[Contemporary Japanese possesses three major types of words, (1) *kango* (Sino-Japanese words), (2) *wago* (Japanese native words), and (3) *gairaigo* (loanwords), and each word type is associated with three types of scripts, (1) *kanji* (Chinese characters), (2) *hiragana*, and (3) *katakana*. *Kanji* are a set of logographic/ideographic scripts, and both *hiragana* and *katakana* are phonetic syllabaries. *Kanji* are used for presenting *kango* and *wago*, while some *wago* are written only in *hiragana*. *Katakana* are used for presenting *gairaigo*. Moreover, *katakana* are unconventionally used to write *kango* and *wago* for the purposes of emphasis and so forth. This paper extensively examines *katakana* words including *gairaigo* as well as *kango* and *wago* written in *katakana* unconventionally.

Many observers have commented that *katakana* words are increasing in Japanese writings. However, there is little empirical data to prove their increase in such writings. This dissertation pursues this question by hypothesizing that *katakana* words have been increasingly used in Japanese writings. Together with providing evidence of their increase, this dissertation captures differences in *katakana* word usage between different publication outlets, namely, magazines and newspapers as well as television commercials. In order to investigate these issues, a research project is conducted where vocabularies from the three types of media are collected on computer databases.

The increase of *katakana* words in Japanese writings poses a problem to foreign learners of Japanese whose L1 is English. As reported in various research including Chikamatsu (1996), the learners generally experience difficulty in processing and comprehending *katakana* words. From the learners' perspective, the increase of *katakana* words in Japanese writings means that the learners need to know more *katakana* words than ever before to read Japanese writings.

Meanwhile, native readers of Japanese also express some difficulty with *katakana* words, as illustrated in the recent survey results by the National Institute for Japanese Language and the Japan Broadcasting Corporation. Both governmental agencies found that many Japanese had the experience of being unable to understand the meaning of some *gairaigo.* Their difficulty seems to partially be caused by the increase of *gairaigo* in Japanese writings. From the native readers' perspective, the increase of *gairaigo* means that new *gairaigo* are continuously introduced in such writings, some of which are not deeply rooted in Japanese *gairaigo* inventory but have been introduced relatively recently, with the ensuing result that many people do not know the meaning of such words.

Although it is clear that both foreign learners and native readers of Japanese have difficulty with *katakana* words due to the increase of such words, to date no linguistic analysis has been conducted to account for reasons of their difficulty. Thus, this dissertation examines such reasons, and then offers some suggestions as to how to make *gairaigo* more comprehensible from the point of view of script policy and pedagogical practice. And ultimately, some conclusions regarding the role of *katakana* in the Japanese orthographic system will be discussed in the light of the history of the Japanese language and its writing system.]

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Acknowledgments

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Chapter 1
Introduction

1.1. *Katakana*, *Gairaigo*, and Internationalization of the Japanese Language

Japanese orthography traditionally uses three essential script types, *kanji* 漢字, *hiragana* ひらがな, and *katakana* カタカナ. *Kanji* are Chinese characters or logograms/ideograms, and both *hiragana* and *katakana* are known as syllabaries. One of the ways to categorize words in Japanese is to classify them according to script type, so that Japanese is often said to have *kanji* words, *hiragana* words, and *katakana* words.

Katakana words have been given special attention in Japanese society due to their range of application and specific usages. Loanwords from languages other than Chinese, also known as *gairaigo* 外来語, are generally written in *katakana* script. In addition to this usage, *katakana* script is used for onomatopoeia and words which are intended to be written in an unconventional style; moreover, words which are generally written in either *kanji* or *hiragana*, when singled out for emphasis, as in exclamations, or in attention-getting applications such as advertising, are treated as special exceptions to the conventional style and are written in *katakana*.

In recent years, the Japanese government has pursued what it calls a policy of 'internationalization for the Japanese language.' One of the aims of this policy is to promote and support Japanese language education around the world (National Language Council, 2000). In order to carry out this policy effectively, the Japan Foundation was established in 1972 to provide various types of support, including teacher training and financial and material support (Shimazu, 2001). As a result of this policy, the number of people who have been learning Japanese outside of Japan has increased, as indicated by

surveys conducted regularly by the Japan Foundation. In their 1966/1967 survey, 36,693 people were recorded as studying Japanese world-wide, and this number has increased 60-fold in the intervening 30 years; a 1998 survey indicated that over 2 million people in 115 countries study Japanese (Shimazu, 2001).

The promotion of internationalization for the Japanese language is one of the factors that makes the government recognize some problems with regard to *katakana* words, and this is clearly illustrated by the National Language Council/NLC's strategies to foster the internationalization. The NLC[1] is one of the governmental agencies established to deal with the Japanese language issues. According to its 2000 report, the NLC has approached the goal of internationalization from three major perspectives:

(1) The role of the Japanese language in an international society
(2) A guide to promote internationalization of the Japanese language
(3) Problems occurring along with internationalization

In respect to the role of the Japanese language in an international society, the NLC believes that Japanese should be considered one of the important languages in the world, due to the recent popularity of learning Japanese as a second/foreign language and due to the vast intellectual and academic resources that Japan has accumulated for centuries. The NLC believes that these resources can contribute to help advance the fund of knowledge for humankind in the world, but that more people need to study Japanese in order to access these resources. Not surprisingly, the NLC casts the Japanese language in the role of being one of the world's important international languages.

In respect to promoting internationalization of the Japanese language, the NLC has attempted to implement three major strategies: (1) sending information about Japan

[1] In 2001, the NLC was replaced by the National Language Subdivision of the Council for Cultural Affairs (*Bunka Shingikai Kokugo Bunka-kai* 文化審議会国語分科会) (Ministry of Education, Culture, Sports, Science and Technology/MEXT, 2003b).

out into the world in Japanese; (2) promoting and supporting Japanese language education world-wide; (3) advancing the Japanese language ability of the Japanese people themselves. But the NLC has identified two internal language problems that appear to co-occur along with the process of internationalization. These language-internal problems involve, first of all, the sudden increase of *gairaigo*, one of the types of *katakana* words in Japanese, and, secondly, consistent ways of writing Japanese names in *roomaji*[2] ローマ字 (transliteration employing the Roman alphabet). Of the two language-internal problems, this paper focuses on the increase of *gairaigo* and the role of *katakana* within the Japanese system of orthography. The consistency problems with *roomaji* are not treated in this dissertation, given that *katakana* takes in such a wide array of script processing applications, and issues with *roomaji* are left to future study.

1.2. The Increase in *Gairaigo*

Given the concerns over various problems that co-occur with an increase in internationalization, the Japanese government has been particularly aware of the increase of *gairaigo* in Japanese writings. In response to this concern, the government established a *Gairaigo Iinkai* 外来語委員会 'Loanword Committee' in the National Institute for Japanese Language/NIJL, specifically to investigate and possibly to restrict the proliferation of *gairaigo*. This committee has been working to translate low-frequency, unfamiliar *gairaigo* into new native Japanese words which everyone can understand

[2] In 1954, the Japanese government announced the approved ways to represent a long vowel written in Roman script. The approved method employed placement of the symbol ^ above a vowel (e.g., *rômaji*), but optionally doubling the vowel when the long vowel appears word-initially (e.g., *Oosaka*) (Agency for Cultural Affairs, 1954). However, these suggested methods have not been strictly adhered to. Instead, written forms with no indication of a long vowel (e.g., *romaji*) is generally used. This dissertation intentionally uses the form, *roomaji*, instead of *rômaji* and *romaji*, to indicate a long vowel in the word.

easily: it is essentially charged with making up new *kanji* compounds in order to replace many of these low-frequency, unfamiliar *katakana* loanwords (see NIJL, 2004b).

In addition to the government, many Japanese people have also been concerned about the increase of *gairaigo*, as is evidenced by the heated discussions appearing in popular media such as newspapers, magazines, and even academic journals. For example, the journal *Nihongogaku* 日本語学 (Japanese Language Study) had a special issue in 2003 devoted to the topic of *gairaigo* in which various aspects of *gairaigo* in society at large were discussed. Similarly, the *Yomiuri* newspaper 読売新聞 has expressed the view that the excessive use of *gairaigo* is a problem since it makes their newspapers difficult to read and to understand for the average person, and as a result, as of 2003 they have started to reduce the use of *gairaigo* in their newspapers (Sekine, 2003a).

There is also some empirical evidence demonstrating a moderate increase of *gairaigo* in Japanese. Kawaguchi and Tsunoda (2005) examined the number of *gairaigo* items listed in a popular Japanese dictionary, the *Koujien*[3] 広辞苑. The number of *gairaigo* comprised 8.5% of all listed words in the Third Edition published in 1983, 9.2% in the Fourth Edition published in 1991, and 10.2% in the Fifth Edition published in 1998. Ishiwata (2001) also notes that the entries of *gairaigo* in one mid-size Japanese dictionary represent about 10% of all items. Such observations mean that 1 out of every 10 words in written Japanese is potentially a loanword written in *katakana*; however, one point to note is that they do not state frequencies and statistical facts about actual frequency of occurrence which might of course tilt the balance in respect to actual usage. Although

[3] Relevant to the way to present a long vowel in the word '*roomaji*', this dissertation intentionally uses the way to present a long vowel in Japanese words by following the spelling convention for *hiragana*. Therefore, for example, the long vowel /o:/ in *ko:jien* (name of a Japanese dictionary) is presented by /ou/ as in *koujien* こうじえん (広辞苑).

this data offers compelling evidence about the increase of *gairaigo*, such data alone are not sufficient since we do not know how entries in dictionaries reflect the increase of *gairaigo* in society. More current and much more transparent data is obviously necessary to demonstrate that *gairaigo* in current Japanese writings are used more than ever before.

Even though the average Japanese has not been provided with such clear evidence of the increase of *gairaigo*, many intuitively think that *gairaigo* are nonetheless increasing. One of the reasons must be related to usage considerations in their daily vocabulary. Stanlaw (2004) estimates that up to 10% of daily vocabulary is composed of loanwords from English. Since *gairaigo*, especially those from English, have become such common items for Japanese speakers, they have a sense that *gairaigo* have increased in the Japanese lexicon. In other words, the unmistakable ubiquity of *gairaigo* in the Japanese lexicon may result in their perceptions about the proliferation of *gairaigo* in Japanese. Subsequent chapters in this dissertation present research results which illustrate the degree to which *gairaigo* are in fact increasing in written Japanese, and offers commentary on reasons why many Japanese think *gairaigo* are increasing.

1.3. Potential Problems Caused by *Gairaigo*

In addition to the basic concern about an increase in *gairaigo* in Japanese, the NLC has called attention to what it considers to be five potential problems caused by *gairaigo*. To paraphrase their published concerns, *gairaigo* may have the following effects:

(1) *gairaigo* may obstruct people's communication in Japanese, and it also may hinder the sharing of information necessary for people to live a comfortable life

(2) *gairaigo* can obstruct communication between different generations in Japanese society
(3) *gairaigo* provides only a vague meaning of words because these are not written in the ideographic *kanji* which convey meanings; thus, *gairaigo* are hard for Japanese people to immediately grasp the semantic meaning from
(4) *gairaigo* hinder foreigners in learning Japanese because these are often difficult to understand for them
(5) *gairaigo* hinder Japanese people in learning foreign languages because some *gairaigo* have changed their meaning when being adopted into Japanese and because the Japanese have created Japanized loanwords which make no sense for native speakers of those languages (NLC, 2000).

The NLC does not provide extensive evidence to support such problems purportedly caused by *gairaigo*, but sympathetic observations for the potential confusion caused by the increasing appearance of such *gairaigo* loanwords resonate in the literature. For example, the National Institute for Japanese Language/NIJL (2004a) conducted a survey in 2003 to see whether *gairaigo* are differentially understood by the Japanese belonging to different generations. The results of this survey confirmed that people who are over 60 years of age have more difficulty in understanding the meaning of *gairaigo* than people who are under 60. It also confirmed that White Papers published by the government use numerous *gairaigo* which are not understood by more than 50% of the people who read them (Tanaka, 2003). The NHK (*Nihon Housou Kyoukai* 日本放送協会, the Japan Broadcasting Corporation) also conducted a survey on the topic of *gairaigo* in 2002, and found that 80% of their respondents reported the experience of being unable to understand the meaning of some *gairaigo* (Sakamoto, 2002).

Such results with *gairaigo* seemed to be supported by the number of people who have admitted difficulty in understanding the meaning of such words and who think that loanwords should be translated into Japanese *kanji* compounds because they are difficult for Japanese speakers to understand. Such observations are further supported by data

from the NIJL's 2004 survey of loanwords with 4,500 subjects. A majority of those subjects (61.3%) thought that loanwords should be translated into Japanese words because many of the words were simply not comprehensible for them (see NIJL, 2004b, 2005).

In respect to *gairaigo* conveying vague meanings, as noted in the NLC's (3) above, Rebuck (2002) examined one aspect of how *gairaigo* are used in Japanese writing. He pointed out that the euphemistic usage of such words is really one of the *gairaigo*'s more useful functions. For example, such words are used extensively in the areas of sex and personal hygiene, since these types of words in Japanese are perceived as too direct by the Japanese. By using *gairaigo*, the meaning of these types of words is blurred. Due to this sense of vagueness, *gairaigo* of these types often appear intentionally in advertisements, as pointed out by Ishiwata (2001).

And as noted in (4) above, *gairaigo* are also difficult for foreign learners of Japanese. Takeda (2002) conducted a survey of *gairaigo* in 2002 by asking 100 international students attending a university in Japan about their responses to such foreign loanwords when they encounter them in reading Japanese. All of them responded that they disliked *gairaigo* because of three major reasons: (1) these words are difficult to read (50% of respondents), (2) it is difficult to write down *gairaigo* properly by following the Japanese conventions (25%), and (3) pronunciations of these words are totally different from the original foreign words (24%). Inoue, Kess, and Miyamoto (2001) provide similar evidence of the difficulty with *gairaigo* for foreign learners, by analyzing how well English-speaking university students, who were in Japanese courses at the intermediate to advanced levels, could identify *katakana* loanwords from English. Their

research results demonstrate that the participants only identify familiar/learned loanwords easily, and that they can identify loanwords more easily when the auditory speech images of such words are similar to corresponding English words. However, the correct answer rate for half of the items used in this study is less than 80%, suggesting that participants have difficulty in identifying corresponding English words and linking them to *katakana* loanwords. Anecdotally, even prominent scholars of Japanese Studies, such as Seidensticker (2004), occasionally complain how *gairaigo* are difficult to understand. The NLC does not provide reasons for why *gairaigo* are difficult for learners of Japanese.

As to the NLC's claim, (5) above, that *gairaigo* hinders the acquisition of English by Japanese speakers, Teweles (1981) offers evidence that sheds light on this problem. He showed 20 *gairaigo* originating in English to his college students in Japan, and asked them to provide appropriate English spellings for the corresponding words. He found that the students made 12.3 errors out of 20 on average, concluding that the knowledge of *gairaigo* seems not to help them to acquire "English", since they have difficulty in providing appropriate English spellings for the words. Rebuck (2002) also points out that *gairaigo* are difficult for both the Japanese and learners of Japanese because of false cognates. For example, the false cognate *furonto* フロント 'front' means a hotel reception area in Japanese, but does not have this meaning in English (Rebuck, 2002: 62). *Manshon* マンション 'mansion' is another example of false cognates, meaning 'larger apartments and condominium' in Japanese but does not have this meaning in English (Agency for Cultural Affairs, 1997).

A related issue in the problem with false cognates is Japanized English, in that Japanized English also hinders the acquisition of English by Japanese speakers. For

example, *number plate* ナンバープレート is a Japanized English word which means a 'license plate', and which is used in English spoken by many Japanese. Another example of Japanized English words is *guard-man* ガードマン meaning a 'security guard' in English. A more complete discussion of Japanized English words appears in Chapter 6. Such English words are not really English since they do not make any sense for native English speakers (Rebuck, 2002), and must be considered as reflecting Japanese usage even though they appear in Japanized English usage. However, such words are considered as English words by the Japanese because they are constructed by using English words. Thus, when producing English, the Japanese use these words in English, and as a result, their English is not always transparent for native English speakers.

This section outlined the concerns regarding *gairaigo* that have been voiced by the NLC. If we use these as a starting point for inquiry, we should also note that there are also other *gairaigo* issues that have not been sufficiently researched to date. This dissertation therefore aims to also examine those areas which have not been investigated to date, as well as the various problem areas the NLC has focused on or intimated.

1.4. The Goal of This Dissertation

Not only the NLC but also many others (for example, Iijima, 2003; Kabashima, 2004; Kagami, 2004; and Morimoto and Ono, cited in Kawaguchi & Tsunoda, 2005) have suggested that *katakana* loanwords are increasingly used in various types of Japanese publications. Some are even concerned about the future of the Japanese language, voicing the opinion that many words in the Japanese lexicon may come to be replaced by such loanwords in near future, with the undesired result that Japanese loses

its uniqueness and even its aesthetic qualities. However, while some see an increase of such *katakana* loanwords as a problem, and while it is true that *katakana* words do appear with some frequency in various types of Japanese publications, no one is able to say with certainty whether *katakana* loanwords have been increasingly used in Japanese writings in the recent past. Neither can anyone say with certainty the degree to which this increase has taken place, nor whether this increase is differentially distributed in different publication outlets.

As pointed out by the NLC, *katakana* loanwords specifically are problematic for native speakers of Japanese, since they often encounter *katakana* loanwords for which they do not know the meaning. When native speakers encounter such words, they are required to guess their meaning by context, since generally these words are not listed in the dictionary. Nor can they resort to the semantic meanings that are usually hinted at by the components of Chinese *kanji* characters that compose a single word or a compound word.

Katakana loanwords also appear to be difficult for learners of Japanese who come from different language backgrounds. Those who come from non-English backgrounds cannot understand *katakana* loanwords due to their unfamiliarity of English words; most such loanwords have originated in English, as noted by the National Language Research Institute (1964). At the same time, those who come from an English language background cannot understand *katakana* loanwords because they cannot link such words in Japanese to the corresponding original words in English. So they cannot access the meaning of *katakana* loanwords, despite teachers' expectations that such words are immediately transparent because of their origins as loanwords in the students' native

language background of English (Kess & Miyamoto, 1999). One of the primary factors contributing to this semantic opaqueness is the lack of familiarity for such words in the *katakana* script in Japanese, with the result that native Japanese words in *hiragana* are typically easier to access from the mental lexicon for the learners of Japanese (Kess & Miyamoto, 1999).

This dissertation attempts to investigate *katakana* words issues in detail and to offer commentary and possible solutions for such problems, by examining the following three major issues. First of all, are words written in *katakana* more common than they were before? Or do current Japanese writings use more *katakana* words than before? Secondly, why are *katakana* words, specifically the foreign loanwords known as *gairaigo*, difficult for Japanese speakers to access and understand? And thirdly, why are *katakana* loanwords difficult for learners of Japanese whose L1 is English, even though those words find their ultimate origin in loanwords which have come into Japanese from English? That is, why should native English speakers learning Japanese experience difficulty with these loanwords? Thus, this dissertation not only examines whether *katakana* words are on the increase but also outlines reasons why *gairaigo* might be difficult for both native Japanese speakers as well as for native English speakers learning Japanese. By providing such reasons, this paper proposes some suggestions as to how to make *katakana* loanwords more comprehensible for them. In particular, this dissertation offers some learning protocols for how the Japanese language, specifically reading modern Japanese, should be taught to foreign students who have difficulty in reading *katakana* loanwords in Japanese writings. The aim to make *katakana* words more comprehensible for Japanese speakers and for foreign learners matches the stated goals of

internationalization that the Japanese government has set for the Japanese language, namely, that the Japanese language itself must be a bridge for the Japanese to other people in the world and must be a suitable means for communication between them (NLC, 2000).

As a starting point in order to investigate *katakana* issues, this dissertation hypothesizes that the number of loanwords has been increasing in Japanese writings, that many Japanese speakers perceive that *gairaigo* have been on the definite increase, and that this phenomenon is the source of comprehension difficulties. Similarly, with an increase in the number of *katakana* loanwords in the Japanese vocabulary inventory, foreign learners of Japanese who already have difficulty with such unfamiliar *katakana* loanwords are facing an increased and increasing vocabulary to deal with, and that these new *katakana* vocabulary items do not offer the benefits of script familiarity. Moreover, this dissertation hypothesize that script usage has been changing in Japanese, and more specifically, that the use of *katakana* script in its various usages has increased in recent years. This will be described by capturing differences between different publication outlets.

By offering data which demonstrates both the increase of *gairaigo* and unconventional uses of the *katakana* script, ultimately this dissertation will contribute to the description of the deployment of script types in the total use of the Japanese orthographic system. It should not be surprising that unconventional script usage and increasing variety in the use of script types can be seen more and more in current Japanese writings than ever before, and this, coupled with the increase in *katakana*

loanwords, makes for some interesting changes in the evolving history of the Japanese orthographic system.

1.5. Structure of This Dissertation

As noted earlier, this paper examines three major issues: Do current Japanese writings use more *katakana* words than before? Why should *katakana* words of the *gairaigo* type be difficult for Japanese readers and why should they be difficult for learners of Japanese whose L1 is English to understand? Such comprehension problems in accessing the mental lexicon for Japanese stem from different reasons arising from the interplay of phonological, semantic, and orthographic cues in a given word, but nonetheless represent shortcomings in the access route to the mental dictionary for Japanese. These issues are examined in the seven chapters following this introduction to the dissertation. In Chapter 2, a brief history of written language and script policy in Japan are outlined. Chapter 3 reviews the relevant literature on previous studies examining the percentage of loanwords in Japanese writings, the research methods used in those earlier studies, and how they influence the research methods chosen for this particular work. Additionally, research questions observed from previous studies are surveyed and considered for adaptation for this work, in order to make it possible to compare results of this work to those of earlier work. Chapter 4 further outlines research methods used in this dissertation to conduct an inventory study of *katakana* words, and presents the results of counting *katakana* words, including *gairaigo*, in current Japanese magazines, newspapers, and TV commercials. From Chapter 5 on, *katakana* words are examined from the foreign learners' perspective. Chapter 5 demonstrates the ways that

katakana script and *katakana* words are treated in textbooks for foreign learners of Japanese. In an attempt to make *katakana* words more transparent, Chapter 6 discusses reasons for difficulty with *katakana* words by the learners. Reasons for the difficulty with *katakana* loanwords by native speakers of Japanese are also discussed in this chapter. Chapter 7 introduces transliteration rules from *katakana* loanwords to their English originals. Finally, the concluding chapter, Chapter 8, once again addresses the three major topics posed as research questions by this dissertation, and offers some observations and tentative conclusions regarding the changing role of *katakana* in the Japanese script system.

Chapter 2
History of Written Language and Script Policy in Japan

2.1. Introduction

Contemporary Japanese uses four types of script, (1) *kanji* 漢字 (Chinese characters), (2) *hiragana* ひらがな, (3) *katakana* カタカナ, and (4) *roomaji* ローマ字, and each script has its own function. *Kanji* are a set of logographic/ideographic scripts, and both *hiragana* and *katakana* are phonetic syllabaries. The basic usage of each script is as follows. In general, a Japanese sentence is typically written in a combination of *kanji* and *hiragana*. *Kanji* are used for content words, and *hiragana* are used for some content words with Japanese native origin, as well as function words such as particles, conjunctions, and the inflected part of conjugating verbs/adjectives. *Katakana* are used for some content words, as well as loanwords from foreign language except Chinese, and onomatopoetic renditions. *Katakana* also have a function similar to *italics* in English: these are used for writing words in an unconventional writing style for reasons of emphasis, poetic imagery, and so forth[4]. The usage of *roomaji* is relatively restricted: these are generally used for signs in the public domain coupled with *kanji* signs, and also used for emphasizing a word in order to catch readers' eyes.

Although Japanese uses four types of scripts, three of the scripts, namely *kanji*, *katakana*, and *hiragana*, are the most essential items to write texts in Japanese. This section illustrates the history of the three script types' development and the function of each of the scripts in relation to script policy.

[4] Details on the usage of *katakana* script are explained in Chapter 6.

2.2. A Brief History of the Japanese Writing System

Japanese did not have a written language until logographic *kanji* characters were introduced from China in the 5th century (Habein, 1984). The question we might briefly survey here is just how the Japanese writing system developed after the first introduction of these borrowed Chinese *kanji*. More specifically, this section describes the history of *kanji* after their introduction to Japan and their role on the developmental history of what became *katakana* and *hiragana,* the two phonetic syllabaries.

2.2.1. *Kanji* (Chinese characters)

The origin of Chinese characters goes back to around 5000-3000 BC (Taylor & Taylor, 1995). A large set of Chinese characters appeared as a written language to write texts as early as 3400 BC (Taylor & Taylor, 1995), and they were brought to neighbouring countries such as Japan, Korea, and Vietnam. Such characters are called *kan-ji* 漢字 in Japanese and *han-zi* 漢字 in Chinese (literally, *han* (Chi)/ *kan* (Jap) 漢 'Chinese' and *zi* (Chi)/ *ji* (Jap) 字 'character'). *Kanji* were beginning to be used more widely in Japan in the 5th century, although there is some evidence showing the existence of *kanji* before the 5th century; for example, some artifacts such as coins, mirrors and swords, made before the 4th century, exhibit *kanji* inscriptions (Habein, 1984; Seeley, 1990). Those who could write during this early period of *kanji* were typically immigrants from Korea and China, and they filled positions as scribes in the hereditary Japanese court. Some Japanese from the elite class learned how to read and write from these scribes (Seeley, 1990), but more importantly, the introduction of Buddhism from China to Japan in the mid-6th century led to increased Japanese enthusiasm for learning how to read and write *kanji* (Seeley, 1990).

A few hundred years after the introduction of *kanji*, the Japanese began to produce their own literature. These earlier works include the *Man'youshuu* 万葉集 (759), the compilation of anthology of poems, and the *Kojiki* 古事記 (712) and the *Nihon Shoki* 日本書紀 (720), both about Japan's establishment history (Habein, 1984). These works are entirely written in *kanji*, since the two *kana* syllabaries had not yet been developed at that time.

When Japan adopted *kanji*, it also adopted the Chinese pronunciation for each *kanji* character. Thus, contemporary *kanji* have two types of readings: an *on* (音)-reading and a *kun* (訓)-reading. The *on* (音)-reading represents the phonetic values adopted from the original Chinese pronunciation and then modified to accommodate to the Japanese sound system (e.g., 学 /gaku/). In contrast, the *kun* (訓)-reading represents the native Japanese pronunciation (e.g., 学ぶ /mana-bu/) for words and morphemes. *On* (音)-readings can be of three types of Chinese pronunciations, depending upon which historical period the word was imported from China. These three are as follows: (1) *go-on* 呉音 (Wu pronunciation), (2) *kan-on* 漢音 (Han pronunciation), and (3) *tou/sou-on* 唐/宋音 (Tang/Song pronunciation).

The first type, the *go-on* 呉音 reading, is the earliest introduced pronunciation of Chinese words to Japan and took place by the 7th century (Habein, 1984; Miller, 1967, cited in Vance, 1986; Oono, 1980). This pronunciation was introduced by those Chinese and Koreans who first immigrated to Japan and who spoke Chinese with *go-on* 呉音 pronunciations. *Go* 呉 ('Wu' in Chinese) is the area in the lower Yangtze River in south China, and this pronunciation was used in the Six Dynasties period which dates between

222 and 589 AD. Next, from the 7th to 9th century *kan-on* 漢音 was brought to Japan from China together with advanced technology and sophisticated knowledge by Japanese monks and scholars who visited during the time of the Tang Dynasty (618-907). These pronunciations originated in the standard Chinese spoken in Changan, the capital of the Tang Dynasty. When *kan-on* 漢音 words were introduced, the Japanese imperial court went to safe as to declare *kan-on* 漢音 as the official pronunciation for *kanji* in Japan. The third type of pronunciation, *tou/sou-on* 唐/宋音, was introduced in the 14th century by Japanese Buddhist monks who visited China. The word t*ou* 唐 in *tou/sou-on* 唐/宋音 derive from the *Tang* 唐 in the Tang Dynasty, and *sou* 宋 refers to *Song* 宋 in the Song Dynasty. These pronunciations were based on the Chinese language spoken in the Hangzhou area close to Shanghai. The number of *tou/sou-on* 唐/宋音 pronunciations in the Japanese *kanji* is much smaller than other two pronunciation types: words with such pronunciations are found mainly in Zen terminology (Vance, 1987). Because of this fact, namely, that over the centuries three types of Chinese pronunciations were introduced, each *kanji* character in Japan has the potential for multiple Chinese-based *on*-readings.

Kanji were regarded as the primary form of written expression in Japan, since these were brought from a superior China which possessed advanced culture. Therefore, these Chinese-based *kanji* were called *mana* (literally, *true characters*, 真名) (Taylor & Taylor, 1995), and stood in contrast to the two types of syllabary developed during the Heian period (794-1185). These syllabary symbols for written expression were considered to be secondary to the primary system of *mana* 真名, and this is reflected in the fact that these were named *kana* (literally, *temporary characters*, 仮名) (Taylor &

Taylor, 1995). Such name assignments suggest that *kanji* and *kana* were already subject to a primitive exercise in status planning[5] by the Japanese court, but the reality is that the status given to the scripts in this early period has influenced the writing style of Japanese ever since.

The Japanese language is genetically unrelated to the Chinese language; Japanese employs inflections in both verbs and adjectives, and its SOV word order is different from the Chinese SVO word order. When the Japanese began to produce their own written works, they initially wrote in the Chinese style; that is, Chinese word order was used and inflections were entirely omitted. However, this was not a particularly efficient system for the Japanese, and, by the 6th century, they developed a way to write inflections with Japanese word order (Oono, 1980). Essentially, they began using *kanji* as phonograms; that is, they used an entire character to represent the phonetic value of a syllable. This allowed them to write Japanese inflections, and this usage of *kanji* came to be known as *man'you-gana* 万葉仮名. Such *kana* usage was used until the full-blown development of *hiragana* and *katakana*. Although *man'you-gana* 万葉仮名 were exclusively used in the *Man'youshuu* 万葉集 (759) as early as the 8th century, the Japanese imperial court continued to produce its official documents in Chinese until the 12th century (Habein, 1984). Furthermore, intellectuals were required to write poems only in Chinese, and this practice was continued as late as the beginning of the 20th century (Habein, 1984).

[5] Status planning is one of the language planning practices employed by a government to deal with status of languages in a given society.

2.2.2. *Katakana*

The development of *katakana* is closely related to the reading of Chinese literature and Buddhist texts. At the beginning of the Heian period (794-1185), the study of Chinese literature and Buddhist texts became more popular among intellectuals than it had been during the earlier Nara period (710-794) (Habein, 1984). In order to understand Buddhist texts written in Chinese, the monks used *man'you-gana* 万葉仮名 and diacritical marks (called *okototen* 乎古止点) as reading aids (Habein, 1984). However, the use of *man'you-gana* 万葉仮名 was inefficient, because such *kana* were in effect *kanji* being used as phonograms; a given *kana* could require too many strokes to be written in a limited space in the text. Consequently, monks began to write abbreviated and simplified versions of the *man'you-gana* 万葉仮名, and from this abbreviated *kana, katakana* were developed (Taylor & Taylor, 1995). Because these *katakana* were simplified forms of the earlier *man'you-gana* 万葉仮名, these newer forms were considered as imperfect, or deformed, *kana*, that is, *katakana*, as opposed to the earlier original, and thus genuine, *kana*, the *man'you-gana* 万葉仮名 (Habein, 1984; Ootsubo, 1977).

As mentioned earlier, *katakana* were used as reading aids; they were used for indicating the way to read *kanji* in Chinese texts, so that they were initially regarded as mnemonic signs (not true characters), appearing in small font size next to the texts. After the 12th century, however, writings with full sized *katakana* were beginning to appear (Seeley, 1991). Gradually, then, such characters were used for representing inflections by completely replacing the *man'you-gana* 万葉仮名, and came to be recognized as characters in their own right. As a result of these developments, the writing style of text

with *katakana* mixed with *kanji* emerged, and this style has become the norm for transliterating Chinese texts ever since the mid-Heian era (Ootsubo, 1977). This style was also sometimes used for writing poems and other personal writings after the 10th century (Habein, 1984).

2.2.3. *Hiragana*

Hiragana also developed from *man'yougana* 万葉仮名, but from a different set of character forms, namely, *sou-gana* 草仮名, the cursive forms of *man'you-gana* 万葉仮名 (Habein, 1984; Ootsubo, 1977). In the Heian period, *sou-gana* 草仮名 were simplified to increase efficiency in writing, and this simplified form is what came to be known as *hiragana*. People largely used *hiragana* for calligraphy since they viewed such characters as containing aesthetic qualities; each character was required to have variation in its form in order to fulfill people's artistic demands for writing characters beautifully (Habein, 1984; Ootsubo, 1977). Thus, until 1903, *hiragana* were not as unified as a system as they are today, due to strong influences from the aesthetic demands of the calligraphy tradition (Habein, 1984; Ootsubo, 1977).

In addition to calligraphy, *hiragana* were used by women in their general writings, since women were not allowed to study Chinese during the Heian period (Habein, 1984). The study of Chinese was restricted to men, and for this reason, men had to use *hiragana* to write to women, although men were not required to learn *hiragana*. Thus, during this period *hiragana* were more frequently used than *katakana* in society at large, and literary works were sometimes produced in *hiragana* from the 9th century on. *Waka* 和歌 (Japanese short poems of 31 syllables) were generally written in *hiragana* from the 10th century on (Ootsubo, 1977), and some poems, diaries, and tales were also written in

hiragana. Although a number of written works were exclusively produced in *hiragana*, men were still required to write Chinese poems and official documents in *kanji*.

2.3. The Writing Style From the Nara Period (710-794) to the Edo Period (1603-1867)

Before the Meiji Restoration (1867), depending on the type of written works, people chose an appropriate script from the three possible script types, *kanji*, *katakana*, and *hiragana*. The following section will describe how each script was used in a given sentence from the Nara period (710-794) to the Edo period (1603-1867).

During the Nara period (710-794), only *kanji* were used for writing since *kana* were not developed as of yet; thus, all written works, including official documents, were written in *kanji*. In order to distinguish content words from function words, *senmyougaki* 宣命書 was sometimes used; *senmyougaki* 宣命書 is a writing style which uses two sizes of *kanji* characters: large characters indicate content words and small characters represent inflections and particles (Habein, 1984). Writings in the *senmyougaki* 宣命書 style were mostly used Japanese syntax (Habein, 1984), but this style was not used for writing official documents, which continued to be written using Chinese syntax and vocabulary.

In the Heian period (794-1185), all official documents were also written in Chinese (Habein, 1984). In contrast, other written works were presented in either *hiragana, katakana,* or a mixture of *kanji* and *kana* (either of *kana*). For example, *waka* 和歌 were written in *hiragana*. The *Genji Monogatari* 源氏物語 (‘The Tale of *Genji*’) and the *Makura no Soushi* 枕草子 (‘A Pillow Book’) were written in the *wabun* 和文 style wherein *hiragana* were almost entirely used with Japanese vocabulary together with

Japanese syntax (Habein, 1984), a style which became popular from the mid-10th century on (Habein, 1984). *Katakana* were sometimes used for writing poems, and the mixed *kanji* with *kana* style is also seen in some works. For example, the *Konjaku Monogatari* 今昔物語 ('The Buddhist Legend') was written in the *kanji* and *katakana* mixture (Seeley, 1991). Other literary pieces show different orthographic strategies; for example, the *Hougen Monogatari* 保元物語 ('Tales of the Hougen Period') was written with a mixture of *kanji* and either *kana*, so that there are two versions of this work, one in *kanji* and *hiragana* and the other in *kanji* and *katakana* (Habein, 1984).

In the Kamakura period (1185-1333), official documents were written in Chinese, but people's knowledge of Chinese syntax and vocabulary was nowhere as sufficient as that of earlier times (Habein, 1984). Thus, in writing they began to use a hybridized style in which the syntax did not strictly follow the Chinese syntactic framework; instead, Japanese syntax was used along with Chinese syntax in a mixture of the two (Seeley, 1991). For example, 作薬師像 (Chinese word order, V+O) 'make a Yakushi image' is ordered as 薬師像作 which shows Japanese word order (O+V) (Seeley, 1991: 28). This hybridized style of Chinese writing for official documents continued to be used until as late as 1867 (Habein, 1984). During this period *kanji* served a double role and were used as both ideograms and phonograms; the phonograms were used exclusively, however, for representing words of Japanese origin (Habein, 1984). Moreover, while official documents were generally written entirely in *kanji,* sometimes there was an admixture of *kanji* characters with either of the *kana* symbol sets.

From the Kamakura period (1185-1333) to the Muromachi period (1336-1573), *katakana* were more widely used than the Heian period. Texts of *Nou* 能 plays,

developed in the Muromachi period, were written almost entirely in *katakana* (Habein, 1984). Tales and war literature were written in a mixture of *kanji* and *katakana* (Habein, 1984), although there are some literary works written in a mixture of *kanji* and *hiragana*, with the *Heike Monogatari* 平家物語 ('The Tale of the Heike') exemplifying this style (Habein, 1984).

When Jesuit missionaries arrived in Japan in the mid-16th century, they introduced the Roman alphabet. They also brought a printing machine in order to publish Catholic religious materials written in *kanji* and *hiragana* (Habein, 1984). During the contemporaneous Azuchi-Momoyama period (1573-1603), some European words were introduced, and were assimilated into Japanese vocabulary as *pan* 'bread', *karuta* 'playing cards', and *tabako* 'tobacco' (Habein, 1984).

In the Edo period (1603-1867), a large number of the *Kanazoushi* 仮名草子 ('Books written in *kana*') were produced in order to target less skilled readers (Habein, 1984). These books were written in a mixture which favoured *hiragana* over *kanji,* and *kanji* characters presented with *furigana* (small *kana* written on the top indicating the reading of the *kanji* character, e.g., 本(ほん)) to help unskilled readers (Seeley, 1991). *Katakana* were, however, rarely used for these books. Letters were generally written in the style of mixing *kanji* with *hiragana*, and this style was also used for public announcements (Habein, 1984). During the Edo period, the use of *kanji* in writings was increased, as the Tokugawa shogunate adopted Neo-Confucianism as its official philosophy. As a result, Chinese studies once again became common and intellectuals engaged in writing Chinese poems (Seeley, 1991). All of these preceding factors came to

influence the representation of the orthography and specific writing styles in the Edo period.

2.4. Script Policy From the Meiji Period (1868-1912) to the Present

The time after the Meiji Restoration (1867) is regarded as the modern era in Japan, as Japan began to re-orient its society from a feudal system controlled by *samurai* warriors to a modern political system determined by the rule by law. Japan's modern era can be divided into the following four periods, based on the salient characteristics of a shared political ideology:

(1) the period of establishing a modern state, from the Meiji period to the 1930s;
(2) the ultranationalist period, from the 1930s to 1945;
(3) the democratic period, from 1945 to the 1950s; and
(4) the conservative period, from the 1950s to the present.

Unlike the pre-modern times, modern governments have been quite directed in implementing script policies for the purpose of consolidating a modern state and establishing a national identity. This section will illustrate how the government in each of these four modern periods approached the problems inherent in script policies and will discuss the concepts underlying such policies.

2.4.1. The Period of Establishing a Modern State, From the Meiji Period to the 1930s

After the Meiji Restoration, the government was intent on modernizing Japan and catching up with the Western nations which were seen to be considerably advanced in all respects. This modernization was of course to be realized by adopting advanced technology and knowledge from the West. But modernization was also linked to raising the literacy rate of the common people, since mobilizing them in incorporating their

aspirations into the process of state building was considered to be a key factor in the modernization of advanced nation (Twine, 1991). In order to accomplish this, the government began to implement language policies, which included issues relevant to the written language (see Twine, 1991). Among the policies promoted by the government, the following standout: (1) adoption of vocabulary items from European languages, (2) reduction of the number of *kanji* necessary to be learned, (3) colloquialization of the written form in a movement known as *Genbun Icchi* 言文一致, and (4) *kana* spelling reform (*Kanazukai* 仮名遣い). In particular, the last three issues were taken into serious consideration in order to simplify the Japanese writing system, since it was believed that such simplification would raise the literacy rate of common people. The following subsections briefly discuss how each issue was approached, promulgated, and resolved.

2.4.1.1. Adoption of Vocabulary Items From European Languages

A large number of vocabulary items were borrowed from English, German and French, together with the new technology and knowledge which introduced new concepts and practices to the Japanese (Noguchi, 2001). In order to assimilate such foreign words into the Japanese vocabulary inventory, the following three methods were typically adopted.

First of all, the strategy of loan translation was employed; that is, the concept inherent in a foreign word was translated by native materials and then represented by the equivalent meanings in appropriately chosen *kanji* characters. For instance, 'telephone' was translated as 電話 *denwa* (electric talk) and 'truth' as 真理 *shinri* (true reason). This method had already been employed in the Edo period for the purpose of translating words in Dutch scientific texts (Seeley, 1991), and so was not a particularly strange strategy to

the Japanese. Second, *kanji* were used as phonograms to represent foreign words. In this case, the concept inherent in such words was not translated, but the syllables contained in a foreign loanword were rendered by specific *kanji* items which had the same phonetic value as that piece of the word as it was heard by the Japanese: 論事矩 *rojikku* 'logic' and 倶楽部 *kurabu* 'club' (Seeley, 1991). This method was also commonly used for representing proper nouns such as place names: for example, 欧羅巴 *yooroppa* 'Europe' and 巴里 *pari* 'Paris'. Names of Western people were also sometimes written in this way. Third, words could also be directly borrowed from their originals, and written in *katakana* along with the semantic Japanese equivalent in *kanji* characters added for good measure: フリートレード (自由商売 'free trade'), ミニストル (大臣 '[government] minister') (Seeley, 1991).

As illustrated above, both *kanji* and *katakana* were used before WWII to indicate loanwords from European languages. Although the use of *katakana* for such loanwords was evident during the Edo period, this usage was not especially popular; generally, the *kanji* were the more favored strategy used for representing loanwords (Agency for the Cultural Affairs, 1997). During the Taisho period (1912-1926), the use of *katakana* for loanwords did become increasingly popular, but such words were not required to be written in *katakana* until the end of WWII (Habein, 1984).

2.4.1.2. Reduction of *Kanji*

The Meiji government was intent on raising the literacy rate, because the introduction of advanced knowledge and technology from the West required a large number of people who could utilize such knowledge and technology in Japan's modernization (Twine, 1991). Historically, the literate class was exclusively limited to

the elite in Japan, and as a result, only the upper echelons of the warrior class were literate before the Edo period. As the Edo period unfolded, most warriors now became literate, and children of the merchant, artisan, and farmer classes were now able to learn how to read and write *hiragana*, *katakana* and some *kanji* (Habein, 1984). But with the Meiji preoccupation with the modernization of Japan, the common people were also expected to become highly literate, and literacy was not reserved for the upper classes. Despite these early intentions, the literacy rate still lagged in the early Meiji period, as is seen in the data of a military recruit test recorded in Oosaka prefecture in the year 1902; over 20% of the men were categorized as illiterate, and another 30% of the men did not complete their normal elementary school education and thus had minimal reading capabilities (Yamamoto 1981, cited in Unger 1996). Even though compulsory education for all Japanese children was implemented by Meiji reforms in 1886, half of the population was still relatively illiterate in the early and middle Meiji period (Unger 1996). As Meiji intellectuals pushed for raising the literacy rate for the common people, two ideas were debated for implementation: (1) the reduction of *kanji* characters in common use or (2) the total abolition of *kanji* in writing and their replacement with a *kana*-only writing style or a *roomaji*-only writing style (Seeley, 1991).

Kanji became a specific target for script reform, because it was felt that by reducing the number of *kanji* to use, children would be able to spend more time in learning other subjects (Twine, 1991). The argument was that a writing system which mixed *kanji* with *kana* is too complicated and that learning and memorizing *kanji* takes an inordinate amount of time (Seeley, 1991). It was also argued that the common people were unable to read academic writings, newspapers and magazines which contained a

large number of *kanji* (Habein, 1984; Seeley, 1991; Twine, 1991). Intellectuals of the early Meiji period who had been educated through the medium of Chinese studies promoted in the Edo era, however, continued to prefer using *kanji* in their writings (Habein, 1984).

These two approaches, that is, the reduction of *kanji* versus the abolition of *kanji*, acquired strong supporters on each side. One of the more influential advocates of the *kanji* reduction argument was *Yukichi Fukuzawa* 福沢諭吉, a prominent educator in the early Meiji period and the founder of modern Japan's one of the most prestigious private universities, *Keio* 慶應 University. *Fukuzawa* believed that a maximum of 2000 to 3000 *kanji* were adequate and that this number was sufficient for children to learn in the school system (Seeley, 1991). The media also supported the idea of *kanji* reduction, with the result that difficult *kanji* in newspapers were intentionally dropped and replaced by *katakana* (Seeley, 1991). On the other side of the argument, a few organizations promoted the abolition of *kanji* altogether. For example, the *Kana no Kai* かなの会 (*Kana* Club) was established for the enhancement of a *kana*-only writing style and the *Roomaji Kai* 羅馬字会 (Romanization Club) was established for the encouragement of a *roomaji*-only writing style (Seeley, 1991). These types of organizations are still seen in contemporary Japan; for example, the *Kanamojikai* カナモジカイ (Society for *Kana* Letters) supports *katakana*-only use for writing instead of *kanji* use, and the *Nippon no Roomaji Sha* 日本のローマ字社 (Society for *Roomaji* Writing in Japan) was established for the promotion of *roomaji*-only writing in Japan (see Ministry of Education, Culture, Sports, Science and Technology, 2006).

In assessing these two competing ideas for script reform, the Meiji government ultimately adopted the policy of reduction of the number of *kanji* in daily use (Twine, 1991). And in 1900, the Ministry of Education formally announced that an inventory of 1200 *kanji* would be selected for memorization by young students at the elementary school level (Seeley, 1991).

2.4.1.3. Colloquialization of the Written Form (*Genbun Icchi* 言文一致)

When Meiji intellectuals encountered Western writings, they quickly realized that there was a basic difference in writing style between Japanese and the Western languages. It was plainly evident that, in contrast to the Western languages, the Japanese writing style was not based on any form of the colloquial language. This disparity between the spoken language and the written language had already been recognized in the Heian period, and by the middle of the Muromachi period the distance between these languages simply grew wider (Habein, 1984).

Meiji intellectuals advocated colloquialization in the written language, and they did this for three reasons. First, written language before the Meiji era had an "archaic, difficult Sino-Japanese" style (Twine, 1991: 108), a style used only by those in the upper class and regarded as extremely difficult for children to learn. For example, 存じ奉り *zonji tatematsuri* 'I think' was written in the inverse word order of Japanese and no inflections were added as in 奉存 (Twine, 1991: 50-52). Second, the Meiji government considered that the disparity between the spoken and written languages hindered the transmission of information (Kess & Miyamoto, 1999; Twine, 1991). Facilitation of communication was considered to be a necessary factor for modernizing Japan, so as to facilitate the spread of newly introduced knowledge and technology throughout the realm

and to transmit information efficiently between the government and its citizens (Twine, 1991). Third, Japan wished to demonstrate its status as a modern nation equivalent to Western states by adopting the Western idea of colloquialization of the written language. This notion also contains the seeds of the underlying concept of Japan's superiority over China and Korea, in that such countries had not yet taken such steps to modernize their orthographic systems (Lee, 1996). Given this constellation of reasons, the government moved toward the adoption of the policy of colloquialization of the written language.

Colloquialization of the written language was implemented mainly in the area of popular literature, and many such works began to be written in a mixture of *kanji* and *hiragana* (Gottlieb, 1995). Official documents, on the other hand, continued to be written in *kanji* and *katakana* (Habein, 1984), and no move to represent a more realistic mimicry of the spoken language occurred in the Meiji period. In fact, this practice generally in continued until the end of WWII (Carroll, 2001).

2.4.1.4. The *Kana* Spelling Reform (*Kanazukai* 仮名遣い)

Some linguists, including *Kazutoshi Ueda*, a prominent linguist trained in Germany, promoted the abolition of historical *kana* spellings in favour of simplification of Japanese writing system (Lee, 1996; Seeley, 1991; Twine, 1991). Historical *kana* spellings were based on the phonetic system in the Heian period, and intellectuals were generally familiar with such spellings (Seeley, 1991). But this spelling system does not reflect the modern phonetic system; for example, some sounds in the Heian period, such as *ye* ゑ (*hiragana*)/ヱ (*katakana*) and *yi* ゐ (*hiragana*)/ヰ (*katakana*), had already been lost but continued to be represented in the historical *kana* spelling by convention. The following are examples of historical versus pronunciation-based spellings: しませう

shimaseu ‘let’s do …’ (historical spelling) vs. しましょう *shimashou* (pronunciation-based) and いとほしい *itohoshii* ‘beloved’ (historical spelling) vs. いとおしい *itooshii* (pronunciation-based). In 1900, the Ministry of Education implemented pronunciation-based *kana* usage at the elementary school level (Carroll, 2001; Unger, 1996), and were supported in this by a number of linguists who had advised the Ministry. However, many intellectuals, including the prominent writer *Ougai Mori* 森鴎外, were opposed to this reform, claiming that historical *kana* spellings are the essential form of Japanese and should be maintained (Seeley, 1991). Due to such strong opposition, the Ministry withdrew this reform in 1908, and it was not until after 1945, under the U.S. occupation, that this reform was ultimately accomplished.

2.4.2. The Ultra-Nationalist Period, From the 1930s to 1945

From the 1930s to 1945 is the period of Japan’s ultra-nationalism. After Japan came away victorious from both the Sino-Japanese War (1894-5) and the Russo-Japanese War (1904-5), national pride was boosted; nationalism later became the predominant ideology when the government came under military control, a political development which took place in Japan from the 1930s to 1945. Japanese nationalism was linked to the preservation of national polity (*kokutai* 国体 ‘literally, national body, but this word specifically means that the establishment of a state under the emperor’) and the concept of a unified and unique national language, namely, Japanese (Gottlieb, 1995).

During this period, the purity of the language was the underlying concept that drove most changes in script policy. Because Japanese has *kotodama* 言霊 ‘spirit of language’, the special and inescapable spirit of its own language, the Japanese people considered their language to be unique and sacred, and in line with this notion they

believed that their language had to be protected from the contamination of foreign influences (Gottlieb, 1995). Thus, Japanese was to be purified by getting rid of loanwords from Western languages, and these words were to be replaced by Sino-Japanese compounds which were thought to be more native in their origins. For example, ベースボール *beesubooru* 'baseball' was replaced by *yakyuu* 野球 and ハイキング *haikingu* 'hiking' by *ensoku* 遠足 (Carroll, 2001). In addition, the *roomaji* system was regarded as an enemy script and its use was discouraged and severely curtailed (Gottlieb, 1995).

Kanji, of course, are in Chinese origin, and definitely not pure Japanese. But they were not regarded as foreign words and the rationalization put forth was that the preservation of *kanji* should be encouraged, because these were to be taken as a tool to link Japan to other regions which had also been influenced by Chinese culture (Lee, 1996). If anything, the territorial expansion by Japan into China led Japan to increase the number of *kanji* in common use. For example, it became necessary to write Chinese personal and place names, and many of the *kanji* characters used for such names were uncommon in Japan until that time (Seeley, 1991). This turn of events ran counter to the reduction of *kanji* which had been encouraged in the Meiji period, and in fact, a new *kanji* list was promulgated in 1942 which consisted of a total of 2,528 *kanji*. This new list was divided into three categories: high frequency *kanji* of 1,134, lower frequency *kanji* of 1,320, and special *kanji* of 74, this latter subset intended for the text of the Imperial Constitution, imperial rescripts, and so forth (Seeley, 1991).

Interestingly, script reform was independently pursued in the Japanese Army by the War Department (*Rikugunshou* 陸軍省) with its own special literacy objectives in mind. In 1940 the War Department issued regulations restricting the number of *kanji* for

writing weapon names and terms to 1,235, and in 1941 a pronunciation-based *kana* spelling system was adopted for weapon names and related texts (Seeley, 1991). Military jargon was replaced by more common words, and foreign loanwords written in *katakana* were allowed to be used (Gottlieb, 1995). Such task-specific script reforms were employed due to the shortage of suitable recruits in the late 1930s, when the Japanese Army was forced to accept recruits with low educational standards. Some of these recruits were simply unable to read the *kanji* used for writing texts and for the names of weapons, and a number of accidents involving weapons were reported (Seeley, 1991). As a result, the Japanese Army went about implementing its own particular script reforms.

Curiously enough, script reform during this period was characterized by two competing interests: on the one hand, the number of *kanji* in use came to be increased due to the new writing representations caused by having obtained the occupied territory in China while, on the other hand, simplification of script in weapons and military texts took place out of purely practical necessity.

2.4.3. The Democratic Period, From 1945 to the 1950s

In 1945 Japan surrendered, and a period of occupation by the American forces began. The U.S. stayed in Japan until 1952, and during this period everything related to nationalism and militarism, especially the concept of *kotodama* 言霊 'spirit of language' was denied and rejected. Instead, various reforms were enacted to discontinue practices which had been conducted in the wartime, and a political philosophy of democracy was encouraged (Gottlieb, 1995). Language policies were also designed and implemented on the basis of democratic values, and these took guidance from the upper echelons of the Supreme Command for the Allied Powers. For example, policies to raise the literacy rate

of the common people were put in place, given the view that, under a democratic system, each and every citizen should be given an equal opportunity to access education in order to become fully literate (Gottlieb, 1995). It was no longer acceptable that only an elite could become fully literate. Prior to 1945, the majority of adults still only possessed the ability to read simple texts, although the government had attempted to increase the literacy rate of commoners. In order to make ordinary people as literate as the elite, a campaign was planned which would focus on simplification of the written language. This literacy campaign included the following major reforms for implementation: (1) the reduction of *kanji* in common use, (2) the adoption of a *kanji-hiragana* writing style, and (3) the adoption of a pronunciation-based *kana* spelling system (see Gottlieb, 1995).

A reduction in the number of *kanji* allowed to be used was again promoted, because overly numerous and complex *kanji* were considered to be historical remnants left over from the former ruling class (Gottlieb, 1995). Furthermore, by reducing the number of *kanji* in use, it was thought that people's energies could be re-directed from learning excessive *kanji* to learning other subjects (Gottlieb, 1995). Consequently, in 1946, the List of *Touyou Kanji* 当用漢字 (List of *Kanji* for Current Use) was issued, a list in which 1,850 *kanji* were now authorized for use in the public domain (Carroll, 2001).

The writing style in common use was also subjected to simplification in its relationship to the written language. As a new writing style for a democratic Japan, the government considered the three writing style options, the *roomaji*-only writing style, the *kana*-only writing style, and the *kanji-hiragana* writing style. The Supreme Command for the Allied Powers was a major supporter of the proposed adoption of a *roomaji*-only

writing style, having been advised of its efficacy by an American educational delegation which visited Japan in 1946 (Seeley, 1991). Several trials were carried out in an attempt to educate children in the *roomaji*-only writing style in 1947 (Gottlieb, 1995), but it was ultimately the *kanji-hiragana* writing style which came to be adopted. In the end, strong opposition from a Japanese government wishing to maintain some aspects of Japanese tradition carried the day, and the *kanji-hiragana* writing style won out (Gottlieb, 1995).

In the midst of this search for the most suitable writing style for a democratic Japan, the new Constitution had came into effect in 1946 and was written in the colloquial language using a *kanji-hiragana* writing style which downplayed the number of *kanji* used (Carroll, 2001). Traditionally, official documents had been written in a *kanji-katakana* style, but this practice was now changed to a *kanji-hiragana* style under the American Occupation. This new Constitution was intentionally written in a colloquial form of the language, implying a *kanji-hiragana* style to demonstrate that all official documents should be written for all people in a sensible and comprehensible manner (Carroll, 2001).

In 1946, a pronunciation-based *kana* spelling was also promulgated by the government, replacing the historical one (Seeley, 1991). This pronunciation-based spelling had already been employed in the Japanese Army during the war, and the Ministry of Education had in fact been supporting this spelling system since the early 1900s. As a result, there was no strong opposition to implementing this new spelling system, unlike the case with the *roomaji*-only writing style. School textbooks were now written in the new spelling as of 1947 (Carroll, 2001), and this spelling system has become the norm in the modern form of the Japanese written language. Moreover,

children were taught *hiragana* first after 1946, in order to make a greater contrast with the pedagogical procedures used in the schools before WWII; from 1903 to 1946, *katakana* had been taught to children first in the elementary schools, and only after the acquisition of *katakana* were *hiragana* introduced (Hamamoto, 1994).

2.4.4. The Conservative Period, From the 1950s to Present

After the American Occupation, Japan focused on restructuring its society in order to catch up with the West. Once a sense of political and economic stability had been accomplished, conservatism surfaced (Gottlieb, 1995). In the political arena, the Liberal Democratic Party seized power and its dominance of the government still continues to this day. In economic matters, Japan succeeded in becoming one of the powerful states in the world, and for more than two decades has been reckoned as the second most powerful economy in the world.

Two major script reforms were enacted during this period. The first of these was creating norms for the transcription of foreign loanwords into *katakana,* and the second of these set about increasing the number of *kanji* in use.

Although *kanji* were sometimes used for presenting foreign loanwords, such words had been generally written in *katakana* before WWII, and this practice was continued after 1945. After 1945, a large number of American English words flooded into Japan along with aspects of American culture (Carroll, 2001), and these newly introduced loanwords were all written in *katakana*. Due to the increase in the number of foreign loanwords, in 1954 the National Language Council issued a recommended list for transcribing loanwords in *katakana* (*Gairaigo no Hyouki ni tsuite* 外来語の表記について) (Agency for Cultural Affairs/ACA, 1997). However, many words were written in

unconventional spellings by the general public, and simply did not appear on the list. Some people used unconventional spellings to transcribe loanwords because they wrote such words based on the pronunciation of original words. For example, 'Victoria' was written ヴィクトリア not ビクトリア even though English 'vi' was designated as being replaced by ビ in the list while ヴィ is not on the list at all: 'v' corresponds to ヴ in a pronunciation-based spelling. The spelling convention exhibited in the 1954 list did not reflect the reality of how the loanwords came in and were written, so that there was an increasing demand to set more suitable standards for transliterating foreign loanwords into *katakana*. Responding to this demand, in 1991 a new list of transliteration protocols, the *Gairaigo no Hyouki* 外来語の表記 (the way to transcribe loanwords in *katakana*), was officially issued. This new list charts all the *katakana* characters acceptable for use in representing loanwords (see ACA, 1991), and includes 33 new sounds (such as ヴ 'v', シェ 'she' and ジェ 'je') which neither existed in the earlier transliteration list nor existed in the native Japanese sound system (ACA, 1997). This list was simply issued as a guideline; that is, the general public, the press, and government documents can follow these new recommended *kana* spellings for foreign words, but specialist areas such as the sciences, the arts and individuals' private writings do not have to follow these transliteration rules (Gottlieb, 1995). Even though it has become easier to write foreign words in *katakana* by following the 1991 list of recommendations, the fundamental problem of whether a loanword should be written according to its original pronunciation or according to its Japanized pronunciation has not been resolved yet (Gottlieb, 1995).

With regard to *kanji*, another reform emerged during this conservative era. A conservative movement which had been gathering strength during the American

Occupation, proposed a new, revised list to once again address the number of *kanji* in use. Their idea was to replace the List of *Touyou Kanji* 当用漢字 (List of *Kanji* for Current Use) with a list which was to increase, and not decrease, the number of *kanji* in use. This movement to increase the number of *kanji* can be seen as a reaction to the earlier progressive reform movement which had been fostered during the American Occupation period (Carroll, 2001). As a result, this new List of *Jouyou Kanji* 常用漢字 (List of *Kanji* for General Use) was issued in 1981 (Gottlieb, 1995). In effect, 95 *kanji* were added to the 1946 *Touyou Kanji* 当用漢字 List of 1,850 *kanji,* increasing the inventory to 1,945 characters to be learned and mastered (Gottlieb, 1995). Once again, the government issued this list as a guideline for general use in the public domain, but this list does not apply to specialist areas in the sciences, the arts, and in the private domain (Carroll, 2001).

2.5. Discussion

This chapter has illustrated how each script was used in the development of written texts, in line with the availability of the specific script type and according to the prevailing philosophy of the evolving historical periods. Although the Japanese written language did not exhibit a unified and fixed style for writing texts before the Meiji era (1868-1911), some preferences did characterize orthographic choices in each particular period. For example, *hiragana* were preferred in the Heian period, whereas *kanji* were favoured in the Edo period. Since the introduction of *kanji*, they have always been used for official documents, whether this is solely or coupled with either of the *kana* systems. On the whole, it is safe to say that the Japanese have valued *kanji* over *kana* ever since the early development of *kana* in the Heian period and that *kanji* hold a special place in

the constellation of script types in the Japanese orthographic system. The status given to the various scripts in the Heian period has influenced the writing style of Japanese ever since. *Kanji* are still always viewed as the essential orthographic symbols for writing words, while *kana* continued to be seen as supplements. There was, however, no status difference between the two syllabary systems of *katakana* and *hiragana* before 1945; both of them fulfilled similar roles and were used for writing function words in texts. After 1945, however, the use of *katakana* for writing became less frequent, especially since the *kanji-hiragana* writing style was adopted as a norm for writing official documents. Because *katakana* are used less frequently than *hiragana*, *katakana* are not viewed as essential as *kanji* and *hiragana* in contemporary Japan, and this view is replicated in Japanese language education practices for children as well as for foreigners.

Both Japanese children and learners of Japanese learn the *hiragana* script first, and only then is *katakana* script introduced (Tomita, 1991). *Kanji* are the last orthographic elements to be taught, and textbooks continue to replicate the underlying status of each script in Japanese society. At the beginning level, textbooks are extensively written in *hiragana*; even content words which are typically written in *kanji* are initially introduced in *hiragana* to familiarize students with reading *hiragana*. *Katakana* words are only used for loanwords and onomatopoeia, and it is but a small number of *kanji* words that are introduced at this level. When students become familiar with *hiragana*, the number of *kanji* words increases as the use of *hiragana* content words decreases. These pedagogical practices clearly demonstrated that educators' focus of teaching scripts is on *kanji* and *hiragana*, but not on *katakana*.

Tanaka (1977) provides interesting research results in terms of script familiarity and degree of recognition difficulty; Japanese children between the ages of 6 and 8 showed *hiragana* as easiest to recognize, *katakana* as the second easiest, and *kanji* as the last. Children 9 and 10 years old find *hiragana* as the easiest to recognize, *kanji* as the second easiest, and *katakana* as the least recognizable. Children over 11 find *kanji* as the easiest to recognize, followed by *hiragana*; *katakana* are the most difficult script to recognize. These results suggest that *katakana* script may become less familiar to even Japanese readers, given that they are more accustomed to read sentences written in a combination of *kanji* and *hiragana*. These results also suggest that *katakana* word difficulty possessed by foreign learners of Japanese is easily imagined since the learners are taught Japanese by the same teaching procedures as Japanese children. This implies that from the current teaching procedures the learners cannot develop familiarity towards *katakana* script sufficiently.

But the reality, of course, is that *katakana* are as essential as *kanji* and *hiragana* to reading written Japanese materials, and can be illustrated by the type of data found in the following table.

Table 2.1. **Proportion of Characters in Each Script in Japanese Publications**[6]

Script type	1980 magazines	1994 magazines	1993 newspapers
Katakana	9.6%	15.99%	6.38%
Kanji	29.9%	26.87%	41.38%
Hiragana	50.1%	35.66%	36.62%
Others	10.4%	21.49%	15.62%

The numbers in the table above indicate the proportion of characters in each script used in magazines and newspapers, and illustrates two interesting facts:

[6] Data about the 1983 magazines are taken from Nomura (1980, cited in Hatta 1985). Data about the 1994 magazines are taken from the National Institute for Japanese Language (2002, cited in Yokoyama 2006). Data about the 1993 newspapers are taken from Yokoyama, Sasahara, Nozaki and Long (1998, cited in Yokoyama 2006).

(1) The use of *katakana* script in magazines has increased dramatically in the 14 years between 1980 and 1994, whereas the use of *hiragana* script moves in the inverse direction, and has dropped.[7]
(2) Magazines use more *katakana* script than newspapers.

In conclusion, the Japanese writing system has gone through a number of different historical periods, each of which has exerted an influence on the orthography in each of which has proposed reforms which have had varying degrees of success. One observation that might be made is that, in recent years at least, the *katakana* sub-system of syllabic writing has come to have a lesser status than *kanji* and *hiragana*. But it is also obvious that *katakana* script appears frequently and figures importantly in contemporary Japanese writings; a facile working knowledge of this script is necessary for reading modern Japanese, although it is also true that the percentage of *katakana* characters in the running text is smaller than that of *kanji* and *hiragana*.

[7] No comment is made here about the years since 1994, but this issue will be addressed in succeeding chapters of this dissertation.

Chapter 3
Literature Review for Research Questions and Methodology

3.1. Introduction

As noted in the introductory chapter, Chapter 1, this dissertation examines several major issues in respect to *katakana* words, and one of them is whether current Japanese writings use more *katakana* words than before. In order to particularly investigate this issue, it is necessary to see how previous research examined such an issue in Japanese writings. Only by following the research methods adopted by previous research, it is possible to collect data that can be compared with the data obtained from the previous research. As a result, we can answer the question of whether *katakana* words have been increasingly used in Japanese writings. This chapter aims to establish a baseline of our research project for purposes of comparison, and thus the following section reviews the relevant literature which reports on previous research examining how many *katakana* words appear in Japanese.

Together with the question of whether *katakana* words have been increasingly used in Japanese writings, this dissertation aims to examine whether the word usage and script usage have been changing in the Japanese orthographic system. For the purposes of the investigation of this issue, this chapter also reviews the earlier studies and raises appropriate research questions.

Therefore, this chapter is consisted of three major sections. The first section will review previous studies in order to see how a study was conducted and what kind of data researchers obtained. The second section will raise research questions for this dissertation's research project based on the review in the first section. The last section

will address an appropriate methodology that this dissertation should take which is derived from the methodology adopted by the previous research projects.

3.2. Previous Research Which Examines How Many *Katakana* Words Occur in Japanese Writings

In past work reported in the literature, three types of inventory methods have been employed. Such approaches have varied between counting words and counting characters. Thus, one must distinguish between reports which (1) count *katakana* words together with *wago* 和語 'native Japanese words' and *kango* 漢語 'Sino-Japanese words', (2) count *gairaigo* 外来語 'loanwords from foreign languages other than Chinese' together with *wago* and *kango*, and (3) count characters according to script types. Studies conducted by the method of the first type are elaborated upon in Section 3.2.1, those conducted by the method of the second type are introduced in Section 3.2.2, and those conducted by the method of the third type are illustrated in Section 3.2.3.

3.2.1. Research Counting *Katakana* Words Together With *Wago* 'Native Japanese Words' and *Kango* 'Sino-Japanese Words'

The National Language Research Institute/NLRI [8] (1957, 1958) conducted research on word usage according to *katakana* words together with *wago* 和語 and *kango* 漢語. They studied it in 13 types of magazines published from 1953 to 1954, collecting 240,000,000 words from 1,120 pages of text. Because there is no space between words in a Japanese sentence, the first task in charting the word usage is to separate words in a given sentence. The NLRI separated words by a unit of analysis, known as a β unit, meaning that a sentence was divided into what they perceived as the smallest meaningful

[8] The National Language Research Institute was re-named in 2001and is now known as the National Institute for Japanese Language/NIJL (NIJL, 2006a).

word unit based on the concept of morphemes[9]. For example, 国語研究所 *kokugokenkyuujo* 'Institute for the National Language' is divided into three words, 国語/研究/所 *kokugo/kenkyuu/jo* 'the National Language/Research/Place', 私は *watashiwa* 'I' into two words, 私/は *watashi/wa* 'I/subject case marker', and ようだ *youda* 'seems' into two words, よう/だ *you/da* 'seem/present tense'. Based on this NLRI's study, Saiga, who was a member of the NLRI's research team, produced an interim report in 1955 which illustrated what percentage of *katakana* words including *gairaigo* occurred in texts in comparison with *kango* and *wago*[10]. This report demonstrated that 3.9% of the total inventory of words in their corpus are *katakana* words, but it does not provide percentages for *wago* and *kango*.

In his interim report, Saiga (1955) analyzed the use of *katakana* script in the 13 magazines examined by the NLRI in order to see what kinds of words are written in *katakana*. Such script was used not only for *gairaigo* but also for *wago* and *kango* for the purposes of emphasis, poetic imagery and so forth[11]. Saiga found that among all *katakana* words, 86% are of the *gairaigo* or foreign loanword category, 10% are *wago* or native Japanese words, 2% are *kango* or Sino-Japanese words, and another 2% are of

[9] There are two types of morphemes, free and bound. A free morpheme is a morpheme which can stand alone as a word. In contrast, a bound morpheme needs to be bound to another morpheme to form a word. In Japanese, each *kanji* can function either a free or bound morpheme. In general, each *kanji* having its *on*-reading used for constructing a Sino-Japanese compound is regarded as a bound morpheme, since it needs to be bound to another morpheme (*kanji*). For example, each *kanji* symbol in the word 国語 *kokugo* 'national language' functions as a bound morpheme to form the Sino-Japanese compounding word. In contrast, each *kanji* having its *kun*-reading is a free morpheme. For instance, the *kanji* 国 *kuni* 'country' can stand alone as a word. In this case, the reading of *kanji* 国 *kuni* is its *kun*-reading, indicating that this is a native Japanese word. In general, a *kanji* symbol used for presenting a native Japanese word is considered to be a free morpheme, since each *kanji* symbol can stand alone as a word.

[10] The NLRI studied 13 magazines between 1954 and 1957, and their study results were published in 1957 and 1958 as the final report. In 1955, Saiga published an interim report of this NLRI's study, and the study described in Saiga's report is called 'Saiga's study' in this paper. In his report, Saiga also presented data obtained by his own research study examining word use in newspapers. His study is also called 'Saiga's study' in this paper.

[11] Details on the usage of *katakana* script are explained in Chapter 6.

other types (readings for *kanji* and other symbols). These numbers are summarized in the following table where the numbers in the table represent percentages for each word type from all magazines that Saiga analyzed.

Table 3.1. **Percentage of the *Katakana* Use in *Gairaigo*, *Wago*, *Kango,* and Other Symbols in 13 Magazines**

Gairaigo (外来語, loanwords from foreign languages other than Chinese)	86%
Wago (和語, native Japanese words)	10%
Kango (漢語, Sino-Japanese words)	2%
Others (readings for *kanji* and other symbols)	2%

Saiga (1955) also investigated the use of *katakana* words in three major national daily newspapers, the *Asahi* 朝日, the *Mainichi* 毎日, and the *Yomiuri* 読売, which are easily obtained anywhere in Japan, looking at issues published on the same day, namely, May 9th, 1955. The *Asahi* 朝日 is sometimes described as relatively the left wing newspaper among the three, and the *Yomiuri* 読売 is as relatively the right wing one among the three. Saiga collected a sample of 11, 769 words from 12 pages, and found that the *Asahi* 朝日 contained 4.2% *katakana* words in total, the *Mainichi* 毎日 contained 4.8% *katakana* words, and the *Yomiuri* 読売 contained 3.0% *katakana* words. He does not, however, provide percentages for other words (*kango* and *wago*) in these newspapers.

Saiga examined the use of *katakana* script in the three newspapers, analyzing words written in *katakana* to see what type of words (*kango*, *wago*, etc.) they were. The following table illustrates the results of the percentages of *gairaigo*, *wago*, *kango*, and other items (readings for *kanji* and other symbols) written in *katakana* in three newspapers.

Table 3.2. **Percentage of the *Katakana* Use in *Gairaigo*, *Wago*, *Kango* and Others in Newspapers**

	Asahi 朝日	**Mainichi 毎日**	**Yomiuri 読売**
Gairaigo (外来語, borrowings from foreign languages other than Chinese)	71%	84%	84%
Wago (和語, native Japanese words)	24%	12%	12%
Kango (漢語, Sino-Japanese words)	4%	3%	3%
Others (readings for *kanji* and other symbols)	1%	1%	1%

As illustrated in Table 3.2, *katakana* are mostly used for representing *gairaigo* in the three newspapers. For example, 71% of *katakana* words are *gairaigo* in the *Asahi* 朝日, and 84% of *katakana* words are *gairaigo* in both the *Mainichi* 毎日 and the *Yomiuri* 読売. However, *katakana* can also be used for representing *wago*, *kango*, and other items. In the *Asahi* 朝日, 24% of *wago*, which are generally written in *kanji*, *hiragana*, or the combination of *kanji* and *hiragana*, are written in *katakana*. In the *Mainichi* 毎日 and the *Yomiuri* 読売, 12% of *wago* are written in *katakana*. With regard to *kango*, which are generally written in *kanji* only, 4% of such words are presented in *katakana* in the *Asahi* 朝日, and 3% of those words are presented in *katakana* in both the *Mainichi* 毎日 and the *Yomiuri* 読売.

Sekine (2003b) examined the use of *katakana* words in a subset of articles appearing in the *Yomiuri* 読売 newspaper over a span of three decades, and his study results are exhibited in the following table.

Table 3.3. Katakana **Words per Page in the Yomiuri Newspaper**

1969	420 words in 8 pages	52.5 words/page
1998	686 words in 12 pages	57.1 words/page
2002	695 words in 13 pages	53.5 words/page

As demonstrated in Table 3.3, Sekine found that *katakana* words seemed not to fluctuate too dramatically in newspaper articles over that examined period. For example, in the December 9th, 1969, issue of the *Yomiuiri* 読売, a total of 420 *katakana* words appeared over 8 pages, averaging out to 52.5 *katakana* words per page. In the December 9th issue for 1998, 686 *katakana* words appeared in 12 pages, with an average of 57.1 *katakana* words per page. And in the December 10th issue for 2002, 695 *katakana* words appeared over 13 pages, with an average of 53.5 words per page.

The *Yomiuri* 読売 newspaper also examined the use of *katakana* words by counting such words in both the first page and the social page over six days of the same newspaper, but 30 years apart, in both 1972 and in 2002 (cited in Sekine, 2003b). They then calculated how often a *katakana* word appeared on those pages, and Table 3.4 below illustrates their results.

***Table 3.4. Katakana* Words per Line in the Yomiuri Newspaper**

	First page	**Social page**
1972	1 *katakana* word in 11.39 lines	1 *katakana* word in 7.31 lines
2002	1 *katakana* word in 8.97 lines	1 *katakana* word in 13.34 lines

If we compare the1972 result with the 2002 result for the first pages of the newspapers, the use of *katakana* words has increased. In contrast, however, the use of such words has instead actually decreased when comparing the 1972 result with the 2002 result for the social pages. These results obviously do not offer a clear-cut view that *katakana* words are increasingly used in all newspaper articles.

3.2.2. Research Counting *Gairaigo* Together With *Wago* and *Kango*

There is another method that examines script usage according to word types. In this method the number of *gairaigo* is counted, instead of counting the number of *katakana* words as described in 3.2.1. For example, the National Language Research

Institute/NLRI (1962, 1964) inventoried word usage in 90 different magazines published in 1956. They collected about 140 million words in total from 226,358 pages by dividing sentences into words by β units, a unit of analysis which divides a given sentence into what they perceived as the smallest meaningful unit in words. And then the NLRI categorized separated words into four types:

(1) *kango* (漢語, Sino-Japanese words)
(2) *wago* (和語, native Japanese words)
(3) *gairaigo* (外来語, loanwords from foreign languages other than Chinese)
(4) *konshugo* (混種語, mixed words such as *wago* and *gairaigo*: for example, 生ゴム *namagomu* 'raw rubber' is a mixed word composed by a *wago*, 生 *nama* 'raw', and a *gairaigo,* ゴム *gomu* 'rubber').

Their results demonstrated that 53.9% of total words were of the *wago* type, 41.3% were *kango*, 2.9% were *gairaigo*, and 1.9% were *konshugo* (NLRI, 1964). Table 3.5 below summarizes these percentages.

Table 3.5. **Percentage of *Gairaigo*, *Wago*, *Kango*, and *Konshugo* in 90 Magazines**

Wago (和語, native Japanese words)	53.9%
Kango (漢語, Sino-Japanese words)	41.3%
Gairaigo (外来語, loanwords from foreign languages other than Chinese)	2.9%
Konshugo (混種語, mixed words)	1.9%

In 2006, the National Institute for Japanese Language/NIJL, the former NLRI, released new research results to update data, because they have not carried out a word counting study since 1956 (NIJL, 2006b). They examined 70 different types of monthly magazines published in 1994, and collected 2,000,000 words by β units. Although this research provides with very current data, the NIJL have not analyzed word usage in detail yet. Accordingly, we do not know the ratio of each word type in this new research.

In addition to word usage in magazines, the NLRI conducted a study to examine word usage in newspapers according to word types in the 1960s. This inventory counted

words in all issues of the three major newspapers, the *Asahi* 朝日, the *Mainichi* 毎日, and the *Yomiuri* 読売, that appeared during the entire year of 1966 (cited in Ishiwata, 2001). Table 3.6 shows the data arising from this study.

Table 3.6. **Percentage of *Gairaigo*, *Wago*, *Kango*, and *Konshugo* in the *Asahi*, the *Mainichi*, and the *Yomiuri***

Wago (和語, native Japanese words)	38.8%
Kango (漢語, Sino-Japanese words)	44.3%
Gairaigo (外来語, loanwords from foreign languages other than Chinese)	12.0%
Konshugo (混種語, mixed words)	4.8%

Interestingly, the data in this study is quite different from the data coming from the examination of magazines issued in 1956, as illustrated in Table 3.5. The following table exhibits the data from the magazines in 1956 in Table 3.5 and the data from the newspapers in 1966 in Table 3.6.

Table 3.7. **Percentage of *Gairaigo*, *Wago*, *Kango*, and *Konshugo* in the 1956 Magazines and the 1966 Newspapers**

	The 1956 Magazines	**The 1966 Newspapers**
Wago (和語, native Japanese words)	53.9%	38.8%
Kango (漢語, Sino-Japanese words)	41.3%	44.3%
Gairaigo (外来語, loanwords from foreign languages other than Chinese)	2.9%	12.0%
Konshugo (混種語, mixed words)	1.9%	4.8%

As in Table 3.7, the number of *wago* in newspapers is smaller than that in magazines, and in contrast, the number of *gairaigo* in newspapers is much larger than that in magazines. From a comparison of the two studies, it would appear that *gairaigo* have been on the increase in that ten year period. However, it is possible that the increase of *gairaigo* can be accounted for by citing different media types; that is, perhaps newspapers use more *gairaigo* than magazines.

In 1974, the NLRI researched word usage in high school textbooks for social studies versus the sciences (cited in Ishiwata, 2001). Social studies include Japanese history, world history, politics and economics, philosophy, and geography, while the sciences include physics, chemistry, biology and geology. The results of this research can be seen in Table 3.8.

Table 3.8. **Percentage of *Gairaigo*, *Wago*, *Kango*, and *Konshugo* in High School Textbooks**

	Total	Social studies	Sciences
Wago (和語, native Japanese words)	40.1%		
Kango (漢語, Sino-Japanese words)	52.3%		
Gairaigo (外来語, loanwords from foreign languages other than Chinese)	1.8%	1%	3.3%
Konshugo (混種語, mixed words)	0.7%		
***Jinmei*・Chimei** (人名・地名, person's names and place names)	5.1%		

Note. Ishiwata (2001) provides only *gairaigo* data for social studies and the sciences.

The table above shows that the number of *kango* is the largest category (52.3%) and that the number of *gairaigo* is very small (1.8%). These results can be attributed to the nature of the texts. These are academic textbooks for high school students who have mastered a large number of *kanji* and which can be considered more technical than popular. When looking at the percentages of *gairaigo* between social studies and the sciences, the sciences use more *gairaigo* than social sciences. This is possibly because names for chemical elements such as magnesium and barium are generally presented in *katakana* showing that they are *gairaigo*. Thus, perhaps the percentage of *gairaigo* in the sciences becomes higher.

A study which offers a nice comparison to this report is Nomura and Yanase's (1979) work on the use of words in elementary school children's readings. They collected

14,081 words from 2,874 books, and divided sentences into words by β units. Their research results are illustrated in the following table.

***Table 3.9*. Percentage of *Gairaigo*, *Wago*, *Kango*, and *Konshugo* in Children's Readings**

Wago (和語, native Japanese words)	78.0%
Kango (漢語, Sino-Japanese words)	18.7%
Gairaigo (外来語, loanwords from foreign languages other than Chinese)	2.1%
Konshugo (混種語, mixed words)	1.2%

The percentage of *wago* in children's reading (78%) is higher than high school textbooks (40.1%), while the percentage of *kango* in children's reading (18.7%) is much lower than high school textbooks (52.3%). This is of course because the readings are designed for children who have not learned as many *kanji* as high school students. In Japanese, *kango* are all written in *kanji*, while some *wago* are written in *kana* and others are written in *kanji* or the combination of *kanji* and *kana*. Additionally, *kango* have been perceived as more suitable in Japanese academic writings than *wago*, a perception similar to the use of Latin vocabulary items in English academic writing (Shibatani, 1990), suggesting the obvious conclusion that *kango* are used more in adults' writings and in technical usages. Interestingly, the percentage of *gairaigo* is similar between children's readings (2.1%) and high school textbooks (1.8%).

The NLRI (1987) also charted word usage in the monthly magazine, *Chuuou Kouron* (中央公論), published from 1906 to 1976. They chose to inventory the issues from one entire year from every ten years; that is, they used one year's worth of issues for each of the years 1906, 1916, 1926, 1936, 1946, 1956, 1966, and 1976. From 35,598 pages, 80,000 words (10,000 words from issues of each year) were collected. The NLRI separated sentences into words according to α units, a unit of measurement dividing

sentences into the smallest phrase which is a larger unit than the β unit (morpheme). For example, under α unit analysis the compound 国語研究所 *kokugokenkyuujo* 'Institute for the National Language' is analyzed as one word, 国語研究所 *kokugokenkyuujo*; 私は *watashiwa* 'I' is analyzed as one word, 私は *watashiwa*; andようだ *youda* 'seems' is analyzed as one word, ようだ *youda*. These research results can be summarized in the following table.

***Table 3.10*. Percentage of Gairaigo, Kango, Wago, and Konshugo in the Chuuou Kouron**

	1906	1916	1926	1936	1946	1956	1966	1976
Wago (和語)	59.1%	61.6%	61.4%	58.4%	54.8%	58.6%	54.9%	56.6%
Kango (漢語)	33.2%	30.5%	29.7%	32.9%	36.0%	32.5%	35.6%	32.7%
Gairaigo (外来語)	0.4%	0.4%	0.6%	0.8%	0.7%	1.4%	1.7%	2.3%
Konshugo (混種語)	7.3%	7.6%	8.3%	7.9%	9.3%	7.5%	7.8%	8.4%

From these observations, it was found that *wago* appeared in the texts ranging from 54% to 62% of the total words. *Kango* appeared in the texts ranging from 29% to 36% in these examined periods. In comparison, *gairaigo* appeared in the texts at 0.4% in 1906 and 1916, and they have been steadily increasing over the years. In contrast, such a significant tendency is not shown for *kango* and *wago*.

The NLRI researched the percentages of the *gairaigo* used in seven TV programs for three months in 1989 (cited in Ishiwata, 2001). This data shown in Table 3.11 only includes spoken language, and any forms of a written language which appeared on the TV programs are excluded.

***Table 3.11*. Percentage of *Gairaigo* on TV in 1989**

News	3.4%
Education	2.4%
Practical	3.0%
Music	5.7%
Comedy	4.7%
Story	2.3%
Sports	12.5%
Other	3.6%

While each category shows percentages which range anywhere from 3 words out of a 100 to 6 words out of a 100, the table shows that *gairaigo* are particularly common in sports coverage, with a percentage that translates as 1 in every 8 words.

3.2.3. Research Counting Characters According to Script Types

The last method for assessing script usage has researchers counting the number of characters in running text according to each script type. For instance, Nomura (1980) studied the use of each script type of characters in 27 weekly magazines published in July of 1979. He collected and analyzed characters from 100 sentences taken from each magazine. For example, the sentence 私はバッグを買った *watashi wa baggu o katta* 'I bought a bag' contains nine characters and can be counted according to characters as follows. There are two *kanji*, four *hiragana*, and three *katakana* in the sentence. Nomura determined that 29.9% of total characters were *kanji*, 50.1% were *hiragana*, 9.6% were *katakana*, and 10.4% were other items (alphabetic symbols and numbers). He categorized the 27 magazines into 6 types, according to topic and expected readership.

> (1) politics and economy magazines (政経系 *seikeikei*)
> [朝日ジャーナル *asahi jaanaru* 'Asahi Journal'、週刊ダイヤモンド *shuukan daiyamondo* 'Weekly Diamond'、週刊東洋経済 *shuukan touyou keizai* 'Weekly Eastern Economy'、エコノミスト *ekonomisuto* 'Economist']

(2) magazines published by newspaper companies (新聞系 *shinbunkei*)
[週刊朝日 *shuukan asahi* 'Weekly Asahi'、週刊読売 *shuukan yomiuri* 'Weekly Yomiuri'、サンデー毎日 *sandee mainichi* 'Sunday Mainichi']

(3) magazines published by non-newspaper companies (出版系 *shuppankei*)
[週刊現代 *shuukan gendai* 'Weekly Today'、週刊ポスト *shuukan posuto* 'Weekly Post'、週刊新潮 *shuukan shinchou* 'Weekly Shinchou'、週刊文春 *shuukan bunshun* 'Weekly Bunshun']

(4) popular magazines (大衆系 *taishuukei*)
[週刊アサヒ芸能 *shuukan asahi geinou* 'Weekly Asahi Public Entertainments'、週刊実話 *shuukan jitsuwa* 'Weekly True Story'、週刊大衆 *shuukan taishuu* 'Weekly the General Public'、週刊時代 *shuukan jidai* 'Weekly Times'、週刊明星 *shuukan myoujou* 'Weekly Venus']

(5) women's magazines (女性系 *joseikei*)
[週刊女性 *shuukan josei* 'Weekly Women'、女性自身 *josei jishin* 'Women'、女性セブン *josei sebun* 'Women Seven'、ヤングレディ *yangu redii* 'Young Lady'、An·An、Non·No、微笑 *bishou* 'Smile']

(6) men's magazines (男性系 *danseikei*)
[週刊プレイボーイ *shuukan purei booi* 'Weekly Playboy'、平凡パンチ *heibon panchi* 'Heibon Punch'、ポパイ *popai* 'Popeye'、バラエティ *baraetii* 'Variety']

His data demonstrated that men's magazines showed the highest percentage of *katakana* character use in total characters (15.4%), while women's magazines showed the second highest (10.4%). In contrast, politics and economy magazines showed the lowest percentage of *katakana* character use (6.5%), suggesting that popular magazines have a higher percentage of both foreign words and *katakana* script while technical magazines have a much lower percentage. For example, a percentage of 15.4% in men's magazines translates as 1 out of every 6.5 characters as being *katakana* symbols, while a percentage of 6.5% in politics and economy magazines translates as 1 out of every 15.5 characters. The percentages of each character use in the examined magazines are restated in the following table.

***Table 3.12*. Percentage of *Hiragana*, *Katakana*, *Kanji*, and Other Characters in All 27 Magazines and in Each Magazine**

	all 27 magazines	politics & economy	newspaper	non-newspaper	popular	women	men
Hiragana	50.1%	46.0%	51.5%	49.2%	51.0%	53.4%	48.6%
Katakana	9.6%	6.5%	6.7%	8.7%	9.1%	10.4%	15.4%
Kanji	29.9%	38.2%	32.1%	32.0%	29.7%	25. 2%	23.6%
Others (numbers and alphabetic symbols)	10.4%	9.3%	9.7%	10.1%	10.2%	11.0%	12.4%

Kuno, Yokoyama, and Nozaki (2002) studied the use of *kanji*, *hiragana*, and *katakana* characters in two newspapers, the *Mainichi* 毎日 and the *Asahi* 朝日, published from 1991 to 1998. They analyzed 635,365,402 characters in total, and reported the results shown in Table 3.13.

***Table 3.13*. Percentage of *Hiragana*, *Katakana*, *Kanji*, and Other Characters in Newspapers between 1991 and 1998**

	Mainichi 毎日	Asahi 朝日
Hiragana	36.145%	37.635%
Katakana	9.088%	8.069%
Kanji	41.17 %	41.15%
Others (numbers and alphabetic symbols)	13.60%	13.15%

Both *kanji* symbols and *hiragana* characters are used more than *katakana* characters in both newspapers. While these data suggest that *katakana* characters are slightly more common in the *Mainichi* 毎日 than in the *Asahi* 朝日, the important point would seem to be the fact that almost 1 out of every 11 to 12 character symbols in the printed text comes from the *katakana* syllabary.

Yokoyama (2006) cites data from two recent pieces of research conducted by also counting characters in magazines as opposed to newspapers. One study was carried out by the NLRI to investigate the percentages of four character types, *kanji*, *hiragana*, *katakana*, and other characters (alphabetic symbols and numbers) in about 570,000

characters in total used in magazines published in 1994 (2002, cited in Yokoyama 2006). The other study was carried out by Yokoyama, Sasahara, Nozaki and Long to examine the usage of the four character types in about 2,340,000 characters in total used in newspapers of 1993 issues (1998, cited in Yokoyama 2006). The results from the two studies can be combined and summarized in the following table, Table 3.14.

***Table 3.14*. Proportion of Characters in Each Script in Magazines and Newspapers**

Script type	1994 magazines	1993 newspapers
Katakana	15.99%	6.38%
Kanji	26.87%	41.38%
Hiragana	35.66%	36.62%
Others	21.49%	15.62%

In general, the data above suggest that magazines use more *katakana* script than newspapers, while magazines use less *kanji* script than newspapers. The proportion of *hiragana* script is almost equal between magazines and newspapers.

Of all the studies introduced in this chapter, only three studies compared the data in order to see whether *katakana* words have been increasing. Sekine (2003b) examined the use of *katakana* words in articles in the *Yomiuri* 読売 newspaper by comparing one issue in 1969 with comparable issues in 1998 and in 2002. The *Yomiuri* 読売 newspaper (cited in Sekine 2003b) compared the use of *katakana* words between their 1972 and 2002 issues. But neither study allows us to conclusively state that *katakana* words have been massively increasing. In contrast, the study conducted by the NLRI in 1987 examined word usage in a monthly magazine published over the period from 1906 to 1976, and their results do show a steady increase for *gairaigo* over the years.

In sum, the research results to date are suggestive of an increase but are not unambiguous in charting increasing numbers of *katakana* words. Since these studies provided mildly contrasting results, it is premature to say whether *katakana* words are on

the definite increase in Japanese writings. The simple solution posed here is to engage in an investigation of more current materials in order to examine this issue, and perhaps offer more conclusive results.

3.3. Research Questions

The review of previous research in this chapter demonstrated which issues researchers investigated from what materials and how they conducted studies to obtain data. Moreover, from this review, it was also revealed that, together with studies of the increase in *katakana* loanwords, other *katakana* issues were also investigated in earlier studies. *Katakana* words are words written in *katakana* script, so that such words include not only *gairaigo* but also *wago* and *kango* unconventionally written in *katakana* for purposes of emphasis, poetic imagery and so forth. In this section, research questions that need to be examined in this dissertation's research project for the purposes of illustrating the *katakana* word usage and *katakana* script usage in publications will be clarified from the perspective of our review of previous relevant research.

Sekine (2003b) compared the data of the 1969 *Yomiuri* 読売 newspaper with those of the 1998 newspaper and the 2002 newspaper to see whether *katakana* words in general (not only *gairaigo* but also other words written in *katakana*) were increasing over the period examined in the *Yomiuri* 読売. Saiga (1955) examined which types of words (such as *gairaigo* and *kango*) are written in *katakana* script and what percentage of total *katakana* words are *gairaigo*. The NLRI (1962, 1964) categorized words into four types, *wago*, *kango*, *gairaigo*, and mixed words, and analyzed the percentage of *gairaigo* out of total words in texts. Nomura (1980) examined the use of four types of script, *kanji*,

hiragana, *katakana*, and other (numbers and alphabetic symbols) in different media to see the characteristics of script use according to different types of media. The review of these previous studies illustrated how different aspects of *katakana* words in Japanese writings were investigated in the various research initiatives in the past.

In summary, the following six issues were examined in earlier studies.

(1) Are *katakana* words increasing?
(2) Are *katakana* loanwords, known as *gairaigo*, increasing?
(3) What types of words are written in *katakana* script?
(4) What percentage do *katakana* words comprise of the total words in texts?
(5) What percentage of total *katakana* words are *gairaigo*?
(6) Is there any difference in word usage among different types of media?

Since all of these issues were touched upon, it is better to re-examine these issues in this research project to update data on *katakana* word use and to compare results of this project with those of earlier studies, allowing us to analyze tendencies of *katakana* word use in Japanese writings. Thus, this dissertation intends to re-investigate all of these research questions with more current data.

3.4. Research Methods

From the overview of research studies introduced in this chapter, we can see that two types of research methods, counting words versus counting characters, have been employed. Each method obviously has its advantages and its disadvantages, and a choice of methodology will have to be made in order to carry out an appropriate research project proposed in this dissertation.

3.4.1. Advantages and Disadvantages of the Counting Words Method and the Counting Characters Method

The counting word method is useful to see what kinds of words are written in *katakana*, but a problem with this method is how to separate a given sentence into words. Several research studies introduced in this chapter used β units, so that a sentence is divided into morphemes, the smallest meaningful unit of words. In contrast, one research study adopted α units, which means that a sentence is divided into phrases, larger word units than β units. With the α unit, researchers deal with a smaller number of words than the β unit because the β unit creates more words than the α unit. Thus, charting the words becomes a little easier in a study which employs α units instead of β units. In addition, the α unit is useful when researchers do not wish to count particles (助詞 *joshi* 'case markers'), such as が *ga* 'subject case marker', and verbal suffixes (助動詞 *jodoushi*), such as -られ *-rare* 'passive suffix'. In contrast, the β unit is useful when they need to count particles and other such functional elements.

The method of simply counting characters is an easy way to study how many *katakana* characters are used in a text, because researchers do not have to deal with dividing sentences into words. They simply count numbers of *kanji*, *hiragana*, and *katakana* characters in a text. However, what types of words are used in which script type cannot be ascertained by this method, and this information is completely lost. For instance, we cannot see when some *wago* are sometimes written in *katakana*: バラ *bara* 'rose' is a native Japanese word but is generally written in *katakana*, while ネコ *neko* 'cat' is also a native Japanese word but sometimes written in *katakana* instead of either *hiragana* or *kanji*.

Moreover, counting characters of each script type does not directly reflect the numbers for each word type. As an example, Matsuzaki (1994) found that over 80% of words in Japanese are constructed by three to five morae, and most *kango* are constructed by up to four morae. This suggests that *kango* are written by up to four *kanji* characters. For example, 開発 *kaihatsu* 'development' has four morae and two *kanji* characters, and 達成 *tassei* 'achievement' also has four morae and two *kanji* characters. In contrast, many loanwords from languages other than Chinese possess over six morae (Matsuzaki, 1994). They cannot be broken down into semantic constituents, and are generally written in *katakana.* One *kana* character usually corresponds to one mora, such as カ(ka) and ワ (wa). For instance, ディベロップメント *diberoppumento* 'development' has 8 morae and 9 *katakana* characters and アチーブメント *achiibumento* 'achievement' has 7 morae and 7 *katakana* characters. Such evidence suggests that *katakana* words are generally longer than *kanji* words, have no internal semantic hints, and take more written space with a larger number of character symbols. That is, the number of *katakana* characters appears relatively large, even though the number of *katakana* words used in a text may be somewhat smaller. As a result, it is not possible to see whether *katakana* words are increasing or not in Japanese writings by simply counting characters.

3.4.2. Methodology Employed in This Dissertation

Given the shortcomings for the character counting method, this dissertation has chosen to employ the word counting method. However, the word counting method also requires a decision on the way to separate words in a sentence. As reported above, two types of units have been employed as devices to divide a sentence into words in previous

research: the α unit and the β unit. In this study, sentences in texts are divided into words by the β units (morpheme), the smallest meaningful unit of analysis. This unit was adopted as the most informative choice, not only because the β unit offers a better grasp of words as morphological units but also because we can compare our data to the data reported by previous research. Recall that Saiga (1955) and the NLRI (1962, 1964) both presented research results about the number of *katakana* words in newspapers and magazines in previous time periods by using the β unit analysis. Saiga also demonstrated the use of *katakana* script according to word types including *gairaigo* and *wago*. The NLRI adopted a strategy of analyzing particles (助詞 *joshi* 'case markers' and 助動詞 *jodoushi* 'verbal suffixes') independently; their results place the particles on an independent list, and so particles were not included in their general word list. Moreover, Saiga did not count particles in his study. Thus, for purposes of comparison it is not necessary to count particles in the research materials for this dissertation either.

This chapter has provided an overview as to how *katakana* words have been examined in previous studies. This chapter has also raised research questions for this study and has determined which research method would be most appropriate for the research materials pursued in this dissertation. The next chapter goes on to present details of the inventory of *katakana* words gathered from contemporary magazines and newspapers specifically for this dissertation project. The next chapter also provides an analytical categorization of the data acquired from that study.

Chapter 4
Research on *Katakana* Word Use in Writings in Contemporary Japan and Its Results

4.1. Introduction

In Chapter 3, it was noted that two previous studies provided the evidence that *katakana* words are not increasing while one previous study demonstrated that such words are instead increasing in Japanese writings. Thus, at this point, it is not clear whether these words and this script type have been increasingly used in Japanese writings. In order to see whether *katakana* words are increasingly used, a study was conducted as part of the dissertation project. This chapter will demonstrate the results of that research undertaking, and will answer the fundamental question of whether *katakana* words have been increasingly used in Japanese writings. In addition to this question, this dissertation has raised several other research questions in Chapter 3 in respect to the use of *katakana* words in Japanese writings, and these are restated below.

(1) Are *katakana* loanwords, the loanwords known as *gairaigo*, increasing?
(2) What kinds of words are written in *katakana* script?
(3) What percentage do *katakana* words comprise of the total words in texts?
(4) What percentage of total *katakana* words are *gairaigo*?
(5) Is there any difference in word usage among different types of media?

All of these research questions above will be answered in this chapter by demonstrating the results of this dissertation project and by comparing results of this study with those of the earlier studies introduced in Chapter 3. In particular, this dissertation observed the word usage in magazines and newspapers since the previous studies examined these publications.

Together with the word usage in current magazines and newspapers, word usage in TV commercials was also examined. It has not been examined to date, so that this

dissertation project provides the first data for word usage in this area. In the next section, the research method and other necessary information to conduct a script usage study will be illustrated, and results of the research project will be presented after the methodology section.

4.2. Outline of This Dissertation Research Project

4.2.1. Research Materials

The data for this study was collected from magazines and newspapers by following the National Language Research Institute/NLRI's (1962) data sampling method for magazines and Saiga's (1955) method for newspapers. When there is a span of many years between one study and the other, like between this study and the NLRI's study/Saiga's study, it is appropriate in statistics to follow the data sampling method adopted by the previous study.

The NLRI (1962) collected data from 90 magazines from five different categories; such categories are literature, popular including politics and economy, science, women, and hobbies. Adopting similar categories as the data sampling above, this study collected data from nine different magazines published in 2005 in Japan. The following is the list of magazines by title:

(1) men's hobby, *Lapita* ラピタ, January 2005 issue
(2) men's fashion, *Men's Non-no* メンズノンノ, July 2005 issue
(3) women's hobby, *Waraku* 和楽, March 2005 issue
(4) women's fashion, *More* モア, August 2005 issue
(5) cooking, *Kyou no Ryouri* 今日の料理 'Today's Cooking', July 2005 issue
(6) gardening, *Shumi no Engei* 趣味の園芸 'Gardening as a Hobby', July 2005 issue
(7) politics & economy, *Sapio* サピオ, February 23rd 2005 issue
(8) book review, *Hon no Mado* 本の窓 'A Window for Books', January 2005 issue
(9) travel, *CREA TRAVELLER* クレアトラベラー, March 2005 issue

Magazines (1), (3), (7), and (8) are all published by the *Shougakkan* 小学館 publishing house. Magazines (2) and (4) are published by the *Shuueisha* 集英社 publishing house. Magazines (5) and (6) are published by the NHK (*Nihon Housou Kyoukai* 日本放送協会, Japan Broadcasting Corporation). Magazine (9) is published by the *Bungei Shunjuu* 文芸春秋.

Saiga (1955) collected data from the following three newspapers: the *Asahi* 朝日, the *Mainichi* 毎日, and the *Yomiuri* 読売. This study also used these newspapers for its data collection, as these newspapers are the major national newspapers in Japan, and easily obtained. The three newspapers examined in this dissertation project were issued on July 16th, 2005. In addition to magazines and newspapers, the data from TV commercials were collected from a video produced by the Japanese Language Institute of the Japan Foundation in 2002, and this video contains 37 commercials[12].

4.2.2. Research Method

One of the purposes of our study is to compare our data with data from previous studies, which makes it possible to see whether *katakana* words are increasingly used in Japanese writings. Our data will be specifically compared to Saiga's 1955 data and the National Language Research Institute's (NLRI) 1962 data; both of these studies researched word usage in magazines and newspapers by dividing words into β units, the smallest meaningful unit of analysis. In order to have a reasonable comparison of data,

[12] The Japanese language Institute of the Japan Foundation (2002) produced a video for the purposes of Japanese language education. All of the commercials in this video won awards in the Japan Commercial Film Festival.

the research method in this dissertation project follows the methodology in the two previous studies.

The following discussion outlines the research method that this dissertation project implemented. First, approximately 1,500 words from three to five pages were collected in each magazine and newspaper. Second, these texts were typed on a computer database. Third, the word counting method was adopted, following both Saiga's 1955 study[13] and the NLRI's 1962 study[14]. Fourth, sentences in texts were divided into words by the β unit. Fifth, the separated words were categorized into script types. That is, all words were categorized into four script types: (1) *katakana*, (2) *kanji*, (3) *hiragana*, and (4) others (alphabetic symbols and numbers). In Saiga's study, words are counted by *katakana* words as well as *wago* 和語 'native Japanese words' and *kango* 漢語 'Sino-Japanese words'[15], and *katakana* words are further categorized into four groups: (a) *gairaigo* 外来語 'loanwords' including mixed words[16] and proper nouns, (b) *kango*, (c) *wago* including onomatopoeias, and (d) others (readings for *kanji* and other symbols). Similar to Saiga's study, this dissertation project classifies *katakana* words into several types, but such words are classified into six types: (a) *gairaigo*, (b) *kango*, (c) *wago*, (d) onomatopoeias, (e) mixed words (equivalent to those in Saiga's study), and (f) proper

[13] As mentioned in Chapter 3, Saiga was a member of the research study of the word usage in 13 magazines conducted by the NLRI between 1954 and 1957, and the NLRI research results were released in 1957 and 1958 as their final report. In 1955, Saiga published an interim report of the NLRI's research study, and the study described in Saiga's report is called 'Saiga's study' in this paper. In his report, Saiga also presented data obtained by his own research study examining word use in newspapers. His study is also called 'Saiga's study' in this paper.

[14] The NLRI researched word usage in 90 magazines published in 1956, and reported their study results in 1962. In this paper, their study is called 'the NLRI's 1962 study'.

[15] Saiga did not count words written in alphabetic symbols and numbers in his study.

[16] Mixed words in Saiga's study are the words composed by the combination of *gairaigo* and either *kango* or *wago*. For example, 消しゴム *keshigomu* 'eraser' is constructed by *wago* 消し *keshi* 'to earase' and *gairaigo* ゴム *gomu* 'rubber'.

nouns. From this categorization, we can see what percentage of words is written in *katakana* in contemporary Japanese writings. This categorization also allows us to see what kinds of words (*gairaigo, wago, kango*, and others) are written in *katakana* more clearly than Saiga's study.

In contrast, the NLRI's study counted words by word types such as *kango*, *wago*, and *gairaigo*. Our study counted words by script types, since our focus is on the use of *katakana* words. So it does not attempt to provide accurate data for *kango* and *wago*. But because *kanji* words in our study include *kango* and *wago,* and *hiragana* words also include these types of words, our study can also provide data for *kango* and *wago*. The classification of words in our study, Saiga's study, and the NLRI's study is restated in the following table.

Table 4.1. **Categorization of Words in Three Studies**

Our Study	Saiga's Study	The NLRI's Study
(1) *katakana* words	(1) *katakana* words	(1) *gairaigo* (外来語), including mixed words[17] but excluding proper nouns
(a) *gairaigo* (外来語)	(a) *gairaigo* (外来語), including mixed words and proper nouns	
(b) *kango* (漢語)	(b) *kango* (漢語)	
(c) *wago* (和語)	(c) *wago* (和語), including onomatopoeias	
(d) onomatopoeia[18]	(d) others (readings for *kanji* and other symbols)	
(e) mixed words		
(f) proper nouns		
(2) *kanji* words	(2) *kango* (漢語)	(2) *kango* (漢語)
(a) *kango* (漢語)	(3) *wago* (和語)	(3) *wago* (和語), including onomatopoeias
(b) *wago* (和語)		
(3) *hiragana* words		
(a) *kango* (漢語)		
(b) *wago* (和語)		
(4) alphabetic symbols and numbers		
		(4) *konshugo* (混種語)[19]

In addition to the study with β units above, this dissertation project conducted another study to compare our data with the NLRI's 1987 research study in which they counted words by α units, a larger word unit of analysis than β units. For example, in using α units, 国語研究所 *kokugokenkyuujo* 'Institute for the National Language' is analyzed as one word, 国語研究所 *kokugokenkyuujo*; 私は *watashiwa* 'I' is analyzed as

[17] 'Mixed words of *gairaigo*' in the NLRI's 1962 study are words composed by the combination of two *gairaigo*. For example, カフスボタン *kafusubotan* 'cuffs button' is one of the mixed words of this type because it is composed by カフス *kafusu* 'cuffs' from English and ボタン *botan* 'button' from Portuguese.

[18] 'Onomatopoeia' in our study are indicated 'Others' on our computer databases.

[19] *Konshugo* are words composed by the combination of either type of words, *wago*, *kango*, and *gairaigo*. For example, 生ゴム *namagomu* 'raw rubber' is this type of word, because it is composed by a *wago*, 生 *nama* 'raw', and a *gairaigo,* ゴム *gomu* 'rubber'.

one word, 私は *watashiwa*; and ようだ *yooda* ‘seems’ is analyzed as one word, ようだ *yooda*. In this aspect of the dissertation project using α units, data were collected from three types of magazines in order to make it possible to compare the NLRI’s 1987 data which were taken only from one type of magazines. The three types of magazines examined in this research are as follows:

(1) monthly magazine, *Chuuou Kouron* 中央公論 ‘Central Critiques’, October, November, and December 2005 issues
(2) book review, *Hon no Mado* 本の窓 ‘A Window for Books’, January 2005 issue
(3) cooking, *Kyou no Ryouri* きょうの料理 ‘Today’s Cooking’, July 2005 issue

This research examines three issues of the *Chuuou Kouron* 中央公論 ‘Central Critiques’ published by the *Chuuou Kouron Sha* 中央公論社 in 2005. This magazine was selected because the NLRI researched it in 1987. Together with the *Chuuou Kouron* 中央公論 ‘Central Critiques’, this dissertation research project also examined one issue of the book review, *Hon no Mado* 本の窓 ‘A Window for Books’, published by the *Shougakkan* 小学館 in 2005, and one issue of the cooking magazine, *Kyou no Ryouri* きょうの料理 ‘Today’s Cooking’, published by the NHK in 2005. The data collection method is similar to the study with β units, as described in the following paragraph.

First, approximately 1,500 words are collected from three to five pages in each magazine. Second, these texts are typed on a computer database. Third, the word counting method is used. Fourth, sentences in texts are divided into words by the α units. Fifth, the separated words are categorized into four script types: (1) *katakana*, (2) *kanji*, (3) *hiragana*, and (4) others (alphabetic symbols and numbers).

In order to count words in each script type, this research used a computer program specifically developed by Martin Holmes in the Humanities Computing and Media Centre at the University of Victoria. This research was conducted under the Text Analysis Portal for Research (TAPoR), a facility designed for researchers in the Humanities at the University of Victoria making use of large databases. All of the data presented in this chapter can be seen on the website whose address is http://www.tapor.uvic.ca/cocoon/katakana/index.xq. Note that the α units are indicated as large units and the β units are indicated as small units in tables on the database of the website.

In this research, all 37 TV commercials from the Japan Foundation were also studied, by focusing simply on written forms on the commercials to see what percentage of *katakana* words are used and how they are used. The classification of words and the way to divide a sentence into words follow the method used for magazines and newspapers using the β units.

4.3. Research Results

This dissertation research project thus conducted two major studies, one is the study of words with α units and the other is the study of words with β units. Section 4.3.1 shows results of the study with β units, and Section 4.3.2 demonstrates results of the study with α units.

4.3.1. The Study Results of Words With β Units

In this dissertation project, a total of 22,612 words are collected from all of the texts in magazines, newspapers, and TV commercials, according to the β unit analysis.

Such words are categorized into four word types, (1) *hiragana* words, (2) *kanji* words, (3) *katakana* words, and (4) alphabetic symbols and numbers. The following table exhibits the number and percentage of each word type obtained from this dissertation project.

Table 4.2. **Numbers and Percentages of Words in Each Script Type by β Units**

	NUMBER	PERCENTAGE
***Katakana* words**	2,928	12.95%
***Kanji* words**	13,868	64.33%
***Hiragana* words**	4,927	21.79%
Alphabetic symbols and numbers	889	3.93%
Total	22,612	100%

As indicated in the table, *kanji* words appear most often (64.33%) in the texts examined. *Hiragana* words appear the second most often (21.79%), and *katakana* words follow (12.95%).

This dissertation project collected word frequency data to see how often a given *katakana* word appears in texts. As is demonstrated in Table 4.2, a total of 2,928 *katakana* words appeared in texts of all three types of media, and such words are re-counted to see how many different *katakana* words are used. It was found that 1,172 different *katakana* words appeared in the examined materials. The following table exhibits the observation results with word frequency.

***Table 4.3*. List of *Katakana* Word Frequency in Magazines, Newspapers, and TV Commercials With β Units**

	The number of words	Word frequency
1 time	660	56.31%
2 times	217	18.52%
3 times	107	9.13%
4 times	52	4.44%
5 times	32	2.73%
6 times	17	1.45%
7 times	19	1.62%
8 times	13	1.11%
9 times	10	0.85%
10 times	7	0.6%
11 times	6	0.51%
12 times	8	0.68%
13 times	6	0.51%
14 times	1	0.09%
15 times	1	0.09%
16 times	2	0.17%
18 times	2	0.17%
22 times	2	0.17%
23 times	1	0.09%
24 times	2	0.17%
25 times	2	0.17%
26 times	3	0.26%
27 times	1	0.09%
35 times	1	0.09%

Note. Word frequency in each row is calculated by the following formula: the number of words divided by the total of 1172 items, or NUM/1172. The list illustrating each word item with its frequency is on the database whose website is http://lettuce.tapor.uvic.ca/cocoon/projects/katakana/stemmed.xq?segtype=kat&markup=small_units.

As demonstrated in Table 4.3, 660 words out of 1,172 words, or 56.31% of words, only appeared once in all of the texts examined in this research project; next in frequency, 217 words, or 18.52% of words, appeared twice, and 107 words, or 9.13% of words, appeared three times. A total of these percentages is 83.96%, indicating that 83.96% of words only appeared less than four times in all of the texts examined in this dissertation project. The most important point is that more than half of *katakana* words appeared only

once, suggesting that new words are often introduced in Japanese writings, but they are not used repeatedly and may disappear soon from the Japanese *gairaigo* inventory.

4.3.2. The Study Results of Words With α Units

This dissertation project conducted another research study in order to compare its data to the NIJL's 1987 study using the α unit analysis. In our research, a total of 7,351 words were collected, and these words were also categorized into the four types of words. Table 4.4 shows the number and percentage of each type of words.

Table 4.4. **Numbers and Percentages of Words in Each Script Type by α Units**

	NUMBER	PERCENTAGE
Katakana **words**	617	8.39%
Kanji **words**	4,787	65.12%
Hiragana **words**	1,866	25.38%
Alphabetic symbols and numbers	81	1.1%
Total	7,351	100%

As in the table, *kanji* words again appear most often (65.12%) in the texts examined. *Hiragana* words appear the second most often (25.38%), and *katakana* words follow (8.39%).

This research also examined the use of each type of words in three different types of magazines, (1) critiques, (2) cooking, and (3) literature. The data collected are exhibited in Table 4.5 below.

Table 4.5. **Numbers and Percentages of Each Type of Words in Magazines with α Units**

	Critiques		Cooking		Literature	
	Number	Percentage	Number	Percentage	Number	Percentage
Katakana **words**	262	5.9%	244	16.39%	111	7.81%
Kanji **words**	3,112	70.07%	789	52.99%	886	62.35%
Hiragana **words**	1,034	23.28%	413	27.74%	419	29.49%
Alphabetic symbols and numbers	33	0.74%	43	2.89%	5	0.35%
Total	4,441	100%	1,489	100%	1,421	100%

Of the three types of magazines, *katakana* words are used most in the cooking magazine (16.39%), and least in the critiques magazine (5.9%). On the other hand, *kanji* words are used most in the critiques magazine (70.07%) and least in the cooking magazine (52.99%). The percentage of *hiragana* words in the cooking magazines (27.74%) is closer to the literature magazine (29.49%).

This dissertation project has collected data for the cooking magazine and the literature magazine in α units, because it intended to show whether there are any differences in data using the α unit of analysis and the β unit of analysis. Texts are taken from the identical magazine, but the method to divide words is different from each other. The following table demonstrates the comparison of data between the two magazines, cooking and literature, with the α unit of analysis and the β unit of analysis.

Table 4.6. **Comparison of Numbers Between Magazines With α Units and With β Units**

	Magazines (α units)				**Magazines** (β units)			
	Cooking		**Literature**		**Cooking**		**Literature**	
	Number	**Percentage**	**Number**	**Percentage**	**Number**	**Percentage**	**Number**	**Percentage**
***Katakana* words**	244	16.39%	111	7.81%	304	16.62%	121	7.02%
***Kanji* words**	789	52.99%	886	62.35%	969	52.98%	1,069	62.01%
***Hiragana* words**	413	27.74%	419	29.49%	475	25.97%	494	28.65%
Alphabetic symbols and numbers	43	2.89%	5	0.35%	81	4.43%	40	2.32%
Total	1,489	100%	1,421	100%	1,829	100%	1,724	100%

In the cooking magazine with α units, 16.39% of words are written in *katakana*, while 16.62% of words are in *katakana* in the cooking magazine with β units. In the literature magazine with α units, 7.81% of words are written in *katakana*, while 7.02% of words are in *katakana* in the literature magazine with β units. Thus, percentages for *katakana* words in both magazines for cooking and literature are very close. Similar to *katakana* words,

kanji words show similar data between the α unit of analysis and the β unit of analysis. For example, in the cooking magazine with α units, 52.99% of words are written *kanji*, while 52.98% of words are in *kanji* in the cooking magazine with β units. In the literature magazine with α units, 62.35% of words are written in *kanji*, while 62.01% of words are in *kanji* in the literature magazine with β units. However, the percentage for *hiragana* words and words in alphabetic symbols and numbers are quite different between them. In the cooking magazine with α units, 2.89% of words are written in alphabetic symbols and numbers, while 4.43% of words are in alphabetic symbols and numbers in the cooking magazine with β units. In the literature magazine with α units, 0.35% of words are written in alphabetic symbols and numbers, while 2.32% of words are in alphabetic symbols and numbers in the literature magazine with β units. These results imply that the way to divide words can provide quite different data. Accordingly, we cannot easily compare the data obtained with the α unit of analysis to the data obtained with the β unit of analysis.

The *katakana* word frequency of texts with the α unit analysis is also examined in this dissertation project. As in Table 4.4, a total of 617 *katakana* words appeared in texts examined, and such words are re-counted to see how many different *katakana* words appear in the texts. It was found that 359 different *katakana* words are used in the texts with the α units. Based on these different words, word frequency is calculated, and the results of the frequency are demonstrated in Table 4.7.

Table 4.7. **List of *Katakana* Word Frequency in Magazines, Newspapers, and TV Commercials With α Units**

	The number of words	Word frequency
1 time	249	69.36%
2 times	57	15.88%
3 times	18	5.01%
4 times	15	4.18%
5 times	7	1.95%
6 times	7	1.95%
7 times	2	0.56%
8 times	1	0.28%
9 times	0	0
10 times	1	0.28%
15 times	1	0.28%
16 times	1	0.28%

Note. Word frequency in each row is calculated by the following formula: NUM/359. The list illustrating each word item with its frequency is on the database whose website is http://lettuce.tapor.uvic.ca/cocoon/projects/katakana/stemmed.xq?segtype=kat&markup=large_units.

As demonstrated in Table 4.7, 249 words out of 359 words, or 69.36% of words, only appeared once in all of the texts examined in this research project; next in frequency, 57 words, or 15.88% of words, appeared twice in the texts, and 18 words, or 5.01% of words, appeared three times. The total of these percentages is 90.25%, indicating that 90.25% of words only appeared less than four times in all of the texts examined in this dissertation project. More importantly, about 70% of *katakana* words appeared only once. Thus, the word frequency list with the α units demonstrated a similar tendency to the list with the β units. Once again, we may note that it is evident that new words are often introduced in Japanese writings, but they are not used repeatedly and may disappear soon from the Japanese *gairaigo* inventory.

4.4. Answers to Research Questions

The previous section provided an overview of research results obtained by this dissertation research project. This section provides various results collected by the research project, as well as the results of earlier studies introduced in Chapter 3. Bearing these data in mind, this section will answer the six research questions introduced earlier in this chapter. The questions are repeated below.

(1) Are *katakana* words increasing?
(2) Are *katakana* loanwords, known as *gairaigo*, increasing?
(3) What kinds of words are written in *katakana* script?
(4) What percentage do *katakana* words comprise of the total words in texts?
(5) What percentage of total *katakana* words are *gairaigo*?
(6) Is there any difference in word usage among different types of media?

4.4.1. Are *Katakana* Words Increasing?

The first question to answer is whether *katakana* words are increasing in Japanese writings. Together with this question, what percentage *katakana* words comprise of the total words in texts will be answered, since percentages for each type of words need to be considered to see whether *katakana* words are increasing in texts of magazines and newspapers.

In order to see whether *katakana* words have been increasingly used in Japanese magazines, our research data are compared to those in Saiga's (1955) study. Saiga researched the use of words in 13 types of magazines, and found that 3.9% of the total inventory of words were *katakana* words, when placed in comparison to *wago* and *kango*. Note that Saiga does not provide percentages of *wago* and *kango* in his study. In addition to Saiga's data, our research results from nine types of magazines with β units are demonstrated in Table 4.8.

***Table 4.8*. Percentage of Words With Each Script Type in Magazines Between Two Studies**

	Our Study	Saiga's 1955 Study
***Katakana* words**	15.00%	3.9%
***Kanji* words**	58.38%	N/A
***Hiragana* words**	22.97%	N/A
Alphabetic symbols and numbers	3.65%	N/A

As is illustrated in this table, *katakana* words in our study comprise 15% of the total words in texts of magazines, while *katakana* words in Saiga's study comprise 3.9% of the total words in texts of magazines. Thus, *katakana* words in our study (15%) appear more frequently than in Saiga's 1955 study (3.9%), suggesting that *katakana* words have been increasingly used in magazines. Table 4.8 also shows that the percentage of *katakana* words (15%) is smaller than *kanji* words (58.38%), but appears to be getting closer to *hiragana* words (22.97%).

Along with magazines, Saiga (1955) examined the use of *katakana* words in three major newspapers, the *Asahi* 朝日, the *Mainichi* 毎日, and the *Yomiuri* 読売, by collecting a sample of 11,769 words from 12 pages in the May 9th issue of 1955. He found that the *Asahi* 朝日 contained 4.2% *katakana* words in total, the *Mainichi* 毎日 contained 4.8% *katakana* words, and the *Yomiuri* 読売 contained 3.0% *katakana* words. These results will be compared to results of this research project. The following table shows the results of two studies.

***Table 4.9*. Comparison of Percentage of *Katakana* Word Usage in Newspapers Between Two Studies**

	This Study	Saiga's 1955 Study
***Katakana* words in the *Asahi* 朝日**	5.84%	4.2%
***Katakana* words in the *Mainichi* 毎日**	6.88%	4.8%
***Katakana* words in the *Yomiuri* 読売**	4.38%	3.0%

In the *Asahi* 朝日, 5.84% of words are written in *katakana* in this study; in contrast, 4.2% are written in *katakana* in Saiga's study. In the *Mainichi* 毎日, 6.88% of words are written in *katakana* in this study, while 4.8% of words are written in Saiga's. And in the *Yomiuri* 読売, 4.38% of words are written in *katakana* in this study, while 3% of words are in *katakana* in Saiga's. From the comparison of these data, we can clearly state that *katakana* words have been increasingly used in newspapers.

Then, what percentage do *katakana* words comprise of the total words in texts of all newspapers? The following table shows the percentage of each type of words in all of the newspaper texts obtained in this research project.

Table 4.10. **Percentage of Each Type of Words Comprising of the Total Words in Newspapers**

	Newspapers
***Katakana* words**	5.73%
***Kanji* words**	72.23%
***Hiragana* words**	18.24%
Alphabetic symbols and numbers	3.81%

As in Table 4.10, *katakana* words appear at 5.73% of the total words in newspaper texts. This number is close to other words written in alphabetic symbols and numbers. In contrast, *kanji* words (72.23%) and *hiragana* words (18.24%) appear much more often than *katakana* words (5.73%) in newspapers.

Our study also examined the word usage in TV commercials. The percentage of *katakana* word comprising of the total words in TV commercials as a whole is exhibited in Table 4.11 below.

Table 4.11. **Percentage of Words With Each Script Type in TV Commercials**

	TV commercials
Katakana **words**	17.35%
Kanji **words**	51.54%
Hiragana **words**	20.31%
Alphabetic symbols and numbers	10.8%

Katakana words relative to other types of words appear at 17.35% in TV commercials, and *hiragana* words relative to other types of words appear at 20.31%. Thus, we can see that the relative numbers are close. On the other hand, *kanji* words are used most often in TV commercial texts (51.54%). Words written in alphabetic symbols and numbers are the lowest of all types of words (10.8%).

This section examined whether *katakana* words have been increasing in two types of media, magazines and newspapers, and found that the use of *katakana* words is increasing in both, based on our comparison of the two studies' data. Since this section provided percentages of each type of words according to types of media, it is possible to see whether there are differences in word usage in the three types of media. The following table exhibits the word usages in all three types of media.

Table 4.12. **Percentage of Each Type of Words in Three Types of Media**

	Magazines	**Newspapers**	**TV commercials**
Katakana **words**	15.00%	5.73%	17.35%
Kanji **words**	58.38%	72.23%	51.54%
Hiragana **words**	22.97%	18.24%	20.31%
Alphabetic symbols and numbers	3.65%	3.81%	10.80%

As demonstrated in Table 4.12, newspapers use the most *kanji* words (72.23%), and the least *katakana* words (5.73%), of all three media. TV commercials use the most *katakana* words (17.35%) and words written in alphabetic symbols and numbers (10.8%), and use the least *kanji* words (51.54%) among all three media. Given these results, we can state that newspapers tend to use more *kanji* words than other media while TV commercials

tend to use more *katakana* words and words written in alphabetic symbols and numbers than other media. The number of *hiragana* word use is close among all three media. Moreover, the data in Table 4.12 indicate that the use of each type of words differs according to the type of media. The reasons for the differences in word use according to the media types will be analyzed in Section 4.6.

4.4.2. Are *Katakana* Loanwords, Known as *Gairaigo*, Increasing?

This section investigates the second question of whether *katakana* loanwords, known as *gairaigo*, are increasing in Japanese writings. *Katakana* words can be categorized into two groups, one group consisting of *gairaigo* and the other consisting of onomatopoetic words and words written in an unconventional style for emphasis and so forth. The results of the use of *gairaigo* and other *katakana* words in all texts are exhibited in the following table.

Table 4.13. **Numbers and Percentages of *Gairaigo* and Other *Katakana* Words in Each Script Type by β Units**

	NUMBER	PERCENTAGE
***Katakana* words**	2,928	12.95%
a. *Gairaigo*	2,667	11.79%
b. Other *katakana* words	261	1.15%
***Kanji* words**	13,868	64.33%
***Hiragana* words**	4,927	21.79%
Alphabetic symbols and numbers	889	3.93%
Total	22,612	100%

Table 4.13 provides the percentage of *katakana* words as well as two types of *katakana* words, (a) *gairaigo* and (b) other *katakana* words. The percentage of *katakana* words in this table derives from the percentage of *gairaigo* plus the percentage of other *katakana* words (i.e., (a) *gairaigo* + (b) other *katakana* words = *katakana* words). As demonstrated in Table 4.13, the majority of *katakana* words appear as *gairaigo* in the texts, since

11.79% of *katakana* words are *gairaigo,* while only 1.15% of words are other *katakana* words.

The following table exhibits clearer results in terms of *gairaigo* use in the texts examined. The percentage of *gairaigo* is calculated on the basis of the total of *katakana* words.

Table 4.14. **Percentage of *Gairaigo* and Other *Katakana* Words out of the Total *Katakana* Words**

	NUMBER	PERCENTAGE
Gairaigo	2,667	91.09%
Other *katakana* words	261	8.91%
Total	2,928	100%

The percentages in this table show that over 90% of *katakana* words used in the texts examined appear as *gairaigo.* However, onomatopoetic words and *katakana* words written in an unconventional style are also present, since 8.91% of *katakana* words are categorized as such words.

There are three types of media that this dissertation project examined. In order to see how many *gairaigo* appear in texts out of the total of words according to the types of media, the data in Table 4.13 are classified according to the types of media, which are provided in Table 4.15.

Table 4.15. **Percentage of *Gairaigo* and Other *Katakana* Words out of the Total Words in Three Types of Media**

	Magazines	Newspapers	TV commercials
***Katakana* words**	15.00%	5.73%	17.35%
a. *Gairaigo*	13.67%	5.50%	14.01%
b. Other *katakana* words	1.33%	0.23%	3.34%
***Kanji* words**	58.38%	72.23%	51.54%
***Hiragana* words**	22.97%	18.24%	20.31%
Alphabetic symbols and numbers	3.65%	3.81%	10.80%

Table 4.15 shows the use of *gairaigo* in comparison with *kanji* words, *hiragana* words, and words in alphabetic symbols and numbers in the three types of media. As demonstrated in this table, newspapers use the least *gairaigo* of all three media while TV commercials use the most *gairaigo.* But the ratio of *gairaigo* in TV commercials is very close to the ratio of *gairaigo* in magazines.

In order to see what percentage *gairaigo* appear out of the total *katakana* words in the three types of media, such percentages are calculated and displayed in Table 4.16 below.

Table 4.16. **Percentage of *Gairaigo* and Other *Katakana* Words out of the Total *Katakana* Words in Three Types of Media**

	Magazines	**Newspapers**	**TV commercials**
Gairaigo	91.10%	95.97%	80.74%
Other *katakana* words	8.9%	4.03%	19.26%
Total	100%	100%	100%

As in the table, *gairaigo* are used most in newspapers (95.97%). Interestingly, the use of *gairaigo* is lowest in TV commercials (80.74%) although *katakana* words are used most in TV commercials, as illustrated in Table 4.15. The results in Table 4.16 also provide evidence that the use of *katakana* words is different according to the media types. Differences in the use of such words in the three types of media will be analyzed in Section 4.4.4.

Given all of the *gairaigo* data relative to other *katakana* words in the three types of media, the question of whether the use of *gairaigo* is increasing in Japanese writings is examined by comparing with data in previous research. First, our data are compared with the NLRI's 1962 study examining 90 different magazines, as introduced in Chapter 3. They noted that 53.9% of total words were of the *wago* type, 41.3% were *kango*, 2.9% were *gairaigo*, and 1.9% were *konshugo* (NLRI, 1964). Note that our study does not

provide accurate data for *kango*, *wago*, and *konshugo*, so only *gairaigo* data are exhibited. Table 4.17 below summarizes the data of the two studies.

Table 4.17. **Percentage of *Gairaigo*, *Wago*, *Kango*, and *Konshugo* in Magazines Between Two Studies**

	This Study	The NLRI's 1962 Study
Wago (和語, native Japanese words)	N/A	53.9%
Kango (漢語, Sino-Japanese words)	N/A	41.3%
Gairaigo (外来語, loanwords from languages other than Chinese)	13.6%	2.9%
Konshugo (混種語, mixed words)	N/A	1.9%

As illustrated in Table 4.17, the percentage of *gairaigo* use in magazines is much higher in this study (13.6%) than in the NLRI's (2.9%). Therefore, the *gairaigo* use in magazines has definitely been increasing since 1956[20].

The studies above are all tallied by the β unit of analysis. There is another unit of analysis, the α unit, to divide words, and this unit was used to research the monthly magazine, the *Chuuou Kouron* 中央公論 'Central Critiques' by the NLRI (1987). They charted word usage in such magazines, published from 1906 to 1976. Their research results are summarized in the following table.

Table 4.18. **Percentage of *Gairaigo*, *Kango*, *Wago*, and *Konshugo* in the *Chuuou Kouron* From 1906 to 1976**

	1906	1916	1926	1936	1946	1956	1966	1976
Wago (和語)	59.1%	61.6%	61.4%	58.4%	54.8%	58.6%	54.9%	56.6%
Kango (漢語)	33.2%	30.5%	29.7%	32.9%	36.0%	32.5%	35.6%	32.7%
Gairaigo (外来語)	0.4%	0.4%	0.6%	0.8%	0.7%	1.4%	1.7%	2.3%
Konshugo (混種語)	7.3%	7.6%	8.3%	7.9%	9.3%	7.5%	7.8%	8.4%

Given these results, the NLRI asserts that *gairaigo* have been steadily increasing, while such a significant tendency is not shown for *kango* and *wago*. The research project conducted in this dissertation also examined word usage in this magazine, the *Chuuou*

[20] The NLRI studied 90 magazines published in 1956, and reported their research data in 1962. In this paper, their study was called 'the NLRI's 1962 study' as noted earlier, although their data came from magazines in 1956.

Kouron 中央公論 'Central Critiques' published in October, November, and December of 2005. Table 4.19 below shows results of this research. Note that the data are the average of the three issues, and *katakana* words are categorized into *gairaigo* and other *katakana* words.

Table 4.19*. Percentage of *Katakana* Words, *Kanji* Words, *Hiragana* Words, and Words in Alphabetic Symbols and Numbers in the *Chuuou Kouron

	Our Study
***Katakana* words**	5.90%
a. *Gairaigo*	5.81%
b. Other *katakana* words	0.09%
***Kanji* words**	70.07%
***Hiragana* words**	23.28%
Alphabetic symbols and numbers	0.74%

The data of *gairaigo* in Table 4.19 will be added to Table 4.18 for comparison of the *gairaigo* use, which is shown in the following table.

***Table 4.20*. Percentage of *Gairaigo*, *Kango*, *Wago*, and *Konshugo* in the *Chuuou Kouron* From 1906 to 2005**

	1906	**1916**	**1926**	**1936**	**1946**	**1956**	**1966**	**1976**	**2005**
Wago (和語)	59.1%	61.6%	61.4%	58.4%	54.8%	58.6%	54.9%	56.6%	N/A
Kango (漢語)	33.2%	30.5%	29.7%	32.9%	36.0%	32.5%	35.6%	32.7%	N/A
Gairaigo (外来語)	0.4%	0.4%	0.6%	0.8%	0.7%	1.4%	1.7%	2.3%	5.81%
Konshugo (混種語)	7.3%	7.6%	8.3%	7.9%	9.3%	7.5%	7.8%	8.4%	N/A

In Table 4.20, the increased use of *gairaigo* is clearly demonstrated, since the percentage of *gairaigo* in 2005 (5.81%) is the highest in the table. As noted by the NLRI, the use of *gairaigo* shows a steady increase in the *Chuuou Kouron* 中央公論 'Central Critiques' since 1906, and this was supported by our data as well.

From the comparison of data, it was found that *gairaigo* have been increasingly used in Japanese magazines. Do newspapers show this tendency? The use of *gairaigo* in newspapers is investigated in the following discussion.

The data in Table 4.15 will be compared with data in Saiga's study to see whether *gairaigo* are also increasing in newspapers. Both studies' *gairaigo* data are exhibited in the following table.

Table 4.21. **Percentage of *Gairaigo* in Three Newspapers Between Two Studies**

	This Study	Saiga's Study
Gairaigo (外来語)	5.5%	4.26%

In this research project, *gairaigo* appear at 5.5%, while such words appear at 4.26% in Saiga's study. Given these numbers, it has become clear that *gairaigo* use is also increasing in newspapers, although at a slower rate.

In this section, the question of whether *gairaigo* have been increasing in Japanese writings was investigated. From the comparison of magazine data between the NLRI's 1962 study and our study, as well as between the NLRI's 1987 study and our study, it was demonstrated that the percentage of *gairaigo* use in magazines has been increasing since the earlier two studies. From the comparison of newspaper data between Saiga's study and our study, it became clear that *gairaigo* use is also increasing in newspapers.

Along with answering the basic research questions, several interesting results were demonstrated in terms of *gairaigo* use. First, it was found that the majority of *katakana* words used in the texts examined appear as *gairaigo.* However, *katakana* words written in an unconventional style are also present. This provides evidence that words written in an unconventional style are commonly used in Japanese writings. It was also found that newspapers use the least *gairaigo* in relation to other types of words (*kanji* words, *hiragana* words, and words in alphabetic symbols and numbers) among all three media, and that TV commercials use the most *gairaigo.* This finding suggests that there

are some differences in the use of *katakana* words according to types of media. This issue will be analyzed in Section 4.4.4.

4.4.3. What Kind of Words Are Written in *Katakana* Script in Three Types of Media?

The question of what kind of words are written in *katakana* in the three types of media will be examined in this section. In order to answer this, *katakana* words are further categorized into the following six items:

(1) *Gairaigo* (loanwords)
(2) *Kango* (Sino-Japanese words)
(3) Mixed words (words written in a mixture of *katakana* and other script types. For example, 窓ガラス *madogarasu* 'window glass' is a mixed word because *kanji* and *katakana* are used in the word.)
(4) Onomatopoeia
(5) Proper nouns (names for places in Japan, for Japanese people, and for products. For example, a famous cartoonist, サトウ サンペイ *satou sanpei* uses *katakana* to write down his name.)
(6) *Wago* (native Japanese words)

Table 4.22 below demonstrates results of the *katakana* word use in the three types of media, magazines, newspapers, and TV commercials.

Table 4.22. **Percentage of the *Katakana* Use in Different Types of Words in Three Types of Media**

		Magazines	Newspapers	TV commercials
1	***Gairaigo***	91.06%	95.99%	80.74%
2	***Kango***	0.96%	0.34%	2.96%
3	**Mixed word**	0.08%	0%	2.96%
4	**Onomatopoeia**	1.68%	0%	2.22%
5	**Proper nouns**	0.64%	0.67%	0%
6	***Wago***	5.57%	3.02%	11.11%

Table 4.22 shows that not only *gairaigo* but also other words are written in *katakana*. Onomatopoetic words are generally written in either *katakana* or *hiragana* in Japanese, and Item (4) 'Onomatopoeia' in Table 4.22 shows that *katakana* are chosen to represent such words in some texts. *Kango* are generally written in *kanji*, but Item (2) '*Kango*'

indicates that they can occasionally be written in *katakana*. *Wago* are generally written in either *kanji* or *hiragana*. However, Item (6) '*Wago*' demonstrates that *wago* can be also written in *katakana*. Both *kango* and *wago* written in *katakana* appear the most often in TV commercials, and the least often in newspapers. In other words, TV commercials use *kango* and *wago* written in an unconventional style more than other two media types, while newspapers use such words with a conventional style more than other two types of media. The unconventional presentation of such *kango* and *wago* as an attention-getting device in TV commercials need hardly be stated here.

Our observation results for magazines are next compared to the results by Saiga (1955). He found that among all *katakana* words, 86% are of the *gairaigo* or foreign loanword category, 10% are *wago* or native Japanese words, 2% are *kango* or Sino-Japanese words, and another 2% are of other types (reading for *kanji* and other symbols) in the 13 magazines he surveyed. These numbers are summarized in Table 4.23. Note that our research results in Table 4.22 are modified in order to allow comparisons with Saiga's data in which mixed words and proper nouns are included in *gairaigo* and onomatopoeias are included in *wago*.

***Table 4.23*. Percentage of the *Katakana* Use in *Gairaigo*, *Kango,* and *Wago* in Magazines Between Two Studies**

	This study	Saiga's study
Gairaigo	91.78%	86%
Kango	0.96%	2%
Wago	7.25%	10%
Other types	N/A	2%

This table shows that the use of *katakana* script has changed from the time of Saiga's study. It seems that *katakana* script is used more for representing *gairaigo* in recent Japanese writings, since our data shows that 91.78% of *katakana* words are *gairaigo*

while Saiga's study exhibits that 86% of *katakana* words are *gairaigo*. On the other hand, only about 7% of *katakana* words are either *kango* or *wago* in our study while 12% of *katakana* words are either *kango* or *wago* in Saiga's study. Perhaps there is a tendency in recent magazines to write *kango* and *wago* in a conventional style. That is, *kango* are written in *kanji*, and *wago* are written in either *kanji* or *hiragana*. Note that our study does not provide the data for 'Other types' in Table 4.23 because we did not count reading for *kanji* and other symbols such as alphabet and numbers written in *katakana*. The categorization of words written in *katakana* in our study is different from Saiga's in this respect, as described in Table 4.1.

Is the tendency to write *kango* and *wago* in a conventional style seen in newspapers as well? In order to examine this, Saiga's newspaper data will be compared to our data. The following table illustrates his results of *gairaigo*, *kango*, *wago*, and other items (readings for *kanji* and other symbols) written in *katakana* in the newspapers, as exhibited in Table 4.24 below.

Table 4.24. **Percentage of the *Katakana* Use in *Gairaigo*, *Kango, Wago* and Other Types in Newspapers**

	Asahi 朝日	**Mainichi** 毎日	**Yomiuri** 読売
Gairaigo (外来語)	71%	84%	84%
Kango (漢語)	4%	3%	3%
Wago (和語,)	24%	12%	12%
Other types (readings for *kanji*, and other symbols)	1%	1%	1%

These data need to be averaged to compare with our newspaper data. The following table shows Saiga's averaged data and our research results.

Table 4.25. **Percentage of the *Katakana* Use in Different Types of *Katakana* Words in Newspapers Between Two Studies**

	Our Study	Saiga's Study
Gairaigo	96.66%	79.67%
Kango	0.34%	3.33%
Wago	3.02%	16.00%
Other types	N/A	1%

As demonstrated in Table 4.25, our data shows that 96.66% of *katakana* words are *gairaigo* while Saiga's study observes that only 79.67% of *katakana* words are *gairaigo*. On the other hand, only 3.36% of *katakana* words are either *kango* or *wago* in our study while 19.33% of *katakana* words are either *kango* or *wago* in Saiga's study. These results clearly show that there is also a strong tendency in recent newspapers to write *kango* and *wago* in a conventional style.

When we compare the *katakana* word usages between magazines and newspapers in our study, we can see which media has the stronger tendency to write *kango* and *wago* in a conventional style. Table 4.26 exhibits the comparison of *katakana* word usage between magazines and newspapers in terms of presenting words in an unconventional style.

Table 4.26. **Percentage of the *Katakana* Use in *Gairaigo*, *Kango,* and *Wago* Between Magazines and Newspapers**

	This study (Magazines)	This study (Newspapers)
Gairaigo	91.78%	96.66%
Kango	0.96%	0.34%
Wago	7.25%	3.02%
Total	100%	100%

Katakana script is used to present *gairaigo* in newspapers (96.66%) more often than magazines (91.78%). In contrast, *kango* and *wago* written in *katakana* are larger in the percentages for magazines than for newspapers. These demonstrate that newspapers tend

to present words in a conventional style more often than magazines. In other words, *kango* and *wago* are likely to be written in a conventional style in newspapers.

From the observation of the types of *katakana* words, it was found that *katakana* script is mostly used for representing *gairaigo* in all of the three types of media, but that *katakana* can also be used for representing *wago*, *kango*, and other items. This section has charted the use of *katakana* words so far. If we specifically focus on *gairaigo*, one of the types of *katakana* words, *gairaigo* may exhibit some interesting characteristics in terms of their usage in the three types of media. Thus, the usage of *gairaigo* is observed in the following. In order to see their usage, *gairaigo* are further categorized into the following five groups:

(1) Japanized English words
(2) Loanwords from English
(3) Loanwords from other languages
(4) Proper nouns (foreign names for places, people, and products)
(5) Truncation (パソコン *pasokon* 'personal computer')

Table 4.27 demonstrates the use of *gairaigo* in the magazines, newspapers, and TV commercials in this dissertation project.

Table 4.27. **Percentage of Different Types of *Gairaigo* in *Katakana* Words in Three Types of Media**

		Magazines	Newspapers	TV commercials
1	***Gairaigo*-Japlish**	0.53%	1.05%	17.43%
2	***Gairaigo* from English**	65.77%	56.29%	74.31%
3	***Gairaigo* from other languages**	10.87%	11.19%	7.34%
4	***Gairaigo*-proper nouns**	20.33%	24.83%	0%
5	***Gairaigo*-truncation**	2.51%	6.64%	0.92%
	Total	100%	100%	100%

In Table 4.27, Item (1), '*Gairaigo*-Japlish', indicates a Japanized English word, which is a word borrowed from English but possesses a different meaning from its English original. For example, スタイリスト *sutairisuto* 'stylist' used in Japanese fashion

magazines is one of such words, meaning people who give fashion advice. Item (1) also includes words which are built by English vocabulary but created by the Japanese, so that many such words do not make sense to native English speakers. For example, サラリーマン *sarariiman* 'men who work in an office and receive salary' is a Japanized English expression. Item (2), '*Gairaigo* from English', is a loanword from English, and Item (3), '*Gairaigo* from other languages', is a loanword from languages other than English and Chinese. Item (4), '*Gairaigo*-proper nouns', indicates words used for people's names and place names borrowed from languages other than Chinese, such as アメリカ *amerika* 'America' and ブッシュ *busshu* 'Bush'. Item (5), '*Gairaigo*- truncation', is an item which was a loanword originally but is truncated in Japanese. For example, パソコン *pasokon* is a truncated word, created from パーソナル コンピューター *paasonaru konpyuutaa* 'personal computer'.

As demonstrated in Table 4.27, most of the *gairaigo* are from English in all of the three types of media: 65.77% of *gairaigo* in magazines are from English, 56.29% of *gairaigo* in newspapers are from English, and 74.31% of *gairaigo* in TV commercials are from English. The use of *gairaigo* in TV commercials shows a significant difference from other media. The use of Japlish is much higher in TV commercials (17.43%) than the other two (0.53% in magazines, and 1.05% in newspapers). This result suggests that much of what has been termed Japlish may be created by the advertisement industry.

This section exhibited the results of *katakana* word usage in the three types of media. It was found that, in addition to *gairaigo,* other words are also written in *katakana.* It was also noted that there is a tendency in magazines and newspapers for *kango* and *wago* to be written in a conventional style more than before. Lastly, it appears that the use

of Japlish is much higher in TV commercials than magazines and newspapers. All of these can be recognized as characteristics of *katakana* usage in Japanese writings based on different media types.

4.4.4. Are There Any Differences in Word Usage Among Different Types of Magazines and TV Commercials and From One Newspaper to Another?

Since there are several differences in *katakana* usage in the three types of media, it is possible that these phenomena will also be correlated to different types of magazines and TV commercials and each newspaper. Furthermore, the use of word types may exhibit differences which are tied to different types of magazines/TV commercials and specific newspapers; after all, we found, and reported in Section 4.4.1, that there were differences in the use of word types according to the types of the media. This section will examine whether there are differences in the use of each type of word according to different types of magazines/TV commercials and each specific newspaper brand.

First, *katakana* use in relation to other types of words in each type of magazine is observed, and these data are provided in Table 4.28.

Table 4.28. **Percentage of Words With Each Script Type in Nine Different Magazines**

	cooking	**garden-ing**	**literat-ure**	**men's fashion**	**men's hobby**	**politics & economy**	**travel**	**women's fashion**	**women's hobby**
***Katakana* words**	16.62%	7.35%	7.02%	21.53%	18.24%	9.3%	20.60%	23.91%	11.03%
a. *Gairaigo*	14.22%	4.65%	5.80%	19.67%	17.00%	8.55%	19.97%	22.59%	10.32%
b. Other *katakana* words	2.41%	2.70%	1.22%	1.86%	1.23%	0.75%	0.64%	1.32%	0.71%
***Kanji* words**	52.98%	66.12%	62.01%	46.91%	55.27%	62.25%	59.43%	51.29%	63.75%
***Hiragana* words**	25.97%	24.66%	28.65%	26.48%	23.34%	19.46%	16.84%	20.01%	24.14%
Alphabetic symbols and numbers	4.43%	1.87%	2.32%	5.09%	3.14%	5.99%	3.13%	4.79%	1.09%

Table 4.28 shows differences in the use of word types according to the type of magazines. Magazines for cooking, men's fashion, men's hobby, travel, and women's fashion use

more *katakana* words than magazines for gardening, literature, politics and economy, and women's hobby. The magazine for men's fashion uses the least *kanji* words among all types of magazines, and the percentage of *kanji* words is also low in magazines for cooking, men's hobby, and women's fashion: they are below 55.3%. In contrast, *kanji* words are used as over 60% of the total words in magazines for gardening, literature, politics and economy, and women's hobby. The percentage of *hiragana* words is lowest in the travel magazine (16.84%) among the magazines. In terms of the use of *gairaigo*, such words appear most often in the travel magazine, and appear least in the gardening magazine. The use of *gairaigo* is also very high in both fashion and hobby magazines for men and women.

This dissertation project examined not only the use of *gairaigo* but also the use of other *katakana* words, which are classified into five groups, as mentioned earlier. From the data of various types of *katakana* words, it is possible to see similarities and differences in the use of such words according to types of magazines. The data of various types of *katakana* words as well as *gairaigo* are listed in Table 4.29.

Table 4.29. **Percentage of Words Written in *Katakana* in Nine Different Magazines**

	cooking	**garden-ing**	**literat-ure**	**men's fashion**	**men's hobby**	**politics & economy**	**travel**	**women's fashion**	**women's hobby**
Gairaigo	85.53%	63.27%	82.64%	91.38%	93.23%	91.94%	96.92%	94.5%	93.56%
Kango	3.29%	0%	1.65%	0.32%	1.85%	0%	0.84%	0.20%	0.43%
Mixed words	0%	0%	1.65%	0%	0%	0%	0%	0%	0%
Onomato-poeias	4.93%	1.02%	3.31%	2.56%	1.85%	0%	0%	0.59%	2.15%
Proper nouns	2.63%	0%	2.48%	0%	0%	0%	0.84%	0%	0.86%
Wago	3.62%	35.71%	8.26%	5.75%	3.08%	8.05%	1.40%	4.72%	3.00%

As illustrated in Table 4.29, *kango* and *wago* are written in *katakana* in various types of magazines, although their percentages are much lower than the percentage of *gairaigo*. Thus, it is common to use *kango* and *wago* in an unconventional style in magazines. The

use of *wago* written in *katakana* is significantly higher in the gardening magazine (35.71%), and this is because plants' names which have Japanese native origin are written in *katakana*. After the implementation of the List of *Touyou Kanji* 当用漢字 'List of *Kanji* for Current Use' in 1946, the National Language Council issued a statement in 1949 recommending that words which are not in the list should be written in *kana* or should be replaced with other words (Gottlieb, 1995). Accordingly, the names for plants are still written in *kana* following the Council's recommendation.

In addition to various types of *katakana* words, *gairaigo* are also further classified into five groups, according to types of magazine. Table 4.30 provides the results of what types of *gairaigo* are used in each magazine.

Table 4.30. **Percentage of Different Types of *Gairaigo* in Nine Different Magazines**

	cooking	**garden-ing**	**literat-ure**	**men's fashion**	**men's hobby**	**politics & economy**	**travel**	**women's fashion**	**women's hobby**
1. *Gairaigo*-Japlish	2.3%	0%	0%	0.35%	0%	0%	0%	1.04%	0%
2. *Gairaigo* from English	62.07%	61.29%	76%	82.87%	70.96%	29.03%	75.94%	73.18%	41.28%
3. *Gairaigo* from other languages	16.09%	4.84%	5%	6.29%	18.48%	3.23%	11.59%	8.32%	16.51%
4. *Gairaigo*-proper nouns	18.39%	33.87%	17%	8.39%	9.24%	65.9%	11.3%	10.4%	42.2%
5. *Gairaigo*-truncation	1.15%	0%	2%	2.1%	1.32%	1.84%	1.16%	7.07%	0%

This table shows some significant usages of *katakana* words in magazines. First, a large number of proper nouns from foreign languages are used in the politics and economy magazine. In other words, the majority of *gairaigo* used in this magazine consists of proper nouns from foreign languages, since 65.9% of *gairaigo* are proper nouns while about 33% of *gairaigo* are loanwords from English and other languages. Second, English is the major source language of *gairaigo* in all types of the magazines, since the

percentage of Item (2), '*Gairaigo* from English', is highest among the five items in all types of magazines except the politics and economy magazine and the women's hobby magazine. Third, magazines for men's and women's hobby and cooking use various loanwords not only from English but also from other foreign languages, since their percentages are higher than 16% while other magazines use less than 11.6%. Lastly, truncated words commonly appear in women's fashion magazine (7.07%), which has the highest percentage among all types of magazines. Other magazines only use this type of word between 0 to 2.1%.

Together with each magazine, the use of *katakana* words in relation to other types of words in the three major newspapers is charted next. The following table shows the data collected from three major newspapers in this research project: (1) the *Asahi* 朝日, (2) the *Mainichi* 毎日, and (3) the *Yomiuri* 読売.

Table 4.31. **Percentage of Words With Each Script Type in Three Newspapers**

	Asahi 朝日	**Mainichi 毎日**	**Yomiuri 読売**
***Katakana* words**	5.84%	6.88%	4.38%
a. *Gairaigo*	5.71%	6.35%	4.38%
b. Other *katakana* words	0.13%	0.53%	0.00%
***Kanji* words**	69.35%	71.36%	75.81%
***Hiragana* words**	23.05%	16.91%	15.26%
Alphabetic symbols and numbers	1.76%	4.85%	4.55%

As demonstrated in the table, the percentage of each word type is different from one newspaper to another. For example, the *Yomiuri* 読売 uses the most *kanji* words of all three newspapers. The *Asahi* 朝日 uses the most *hiragana* words and the least *kanji* words of all three newspapers. In terms of the use of *katakana* words, such words are used most in the *Mainichi* 毎日, and the least in the *Yomiuri* 読売. Between two types of

the *katakana* words, the percentage of *gairaigo* is higher than other *katakana* words in the three newspapers.

In addition to the use of *katakana* words in relation to words written in other script types in each newspaper, the use of various types of *katakana* words is charted for each newspaper in Table 4.32 below.

Table 4.32. **Percentage of Words Written in *Katakana* in Three Newspapers**

	Asahi 朝日	**Mainichi 毎日**	**Yomiuri 読売**
Gairaigo	97.85%	92.25%	100%
Kango	0%	0.78%	0%
Mixed word	0%	0%	0%
Onomatopoeias	0%	0%	0%
Proper nouns	2.15%	0%	0%
Wago	0%	6.98%	0%

Interestingly, almost all of the *katakana* words in newspapers are *gairaigo*. *Kango* and *wago* are all written in a conventional style in newspapers except the *Mainichi* 毎日. These results are very different from magazines where various words are written in *katakana,* as illustrated in Table 4.29.

Fortunately, there is one study which can be compared to our *katakana* word data in newspapers, so that it is possible to see the change in *katakana* script use in newspapers. Saiga (1955) examined the use of *katakana* words in the three newspapers to see what kind of words were written in *katakana*. Our research results, as well as Saiga's results, are presented in the following table.

Table 4.33. **Percentage of the *Katakana* Use of *Gairaigo*, *Wago*, and *Kango* in Newspapers Between Two Studies**

	Asahi 朝日		**Mainichi 毎日**		**Yomiuri 読売**	
	Our study	**Saiga**	**Our study**	**Saiga**	**Our study**	**Saiga**
Gairaigo	100%	71%	92.25%	84%	100%	84%
Kango	0%	4%	0.78%	3%	0%	3%
Wago	0%	1%	6.98%	3%	0%	3%

As in Table 4.33, the majority of *katakana* words are *gairaigo* in Saiga's study and our study. However, a few changes from the time of Saiga's study to our study can be recognized in this table. First, the percentage of *gairaigo* in *katakana* words has increased from the time of Saiga's study to our study. Second, both *kango* and *wago* are not written in *katakana* in our study as much as before, except in the *Mainichi* 毎日. These results can be considered to be evidence of script use change in newspapers.

The use of different types of *gairaigo* in the three newspapers in our study is illustrated in Table 4.34.

Table 4.34. **Percentage of Different Types of *Gairaigo* in Three Newspapers**

	Asahi 朝日	**Mainichi 毎日**	**Yomiuri 読売**
***Gairaigo*-Japlish**	3.3%	0%	0%
***Gairaigo* from English**	58.24%	57.14%	52.63%
***Gairaigo* from other languages**	19.78%	9.24%	3.95%
***Gairaigo*-proper nouns**	4.4%	30.25%	40.79%
***Gairaigo*-truncation**	14.29%	3.36%	2.63%

This table exhibits that the major source language for Japanese loanwords in newspapers is English, a result similar to magazines. It seems that the strategies of the *Mainichi* 毎日 to use *gairaigo* are closer to those of the *Yomiuri* 読売, but the strategies of the *Asahi* 朝日 to use *gairaigo* are different from other two. Neither the *Mainichi* 毎日 nor the *Yomiuri* 読売 use many truncated forms while the *Asahi* 朝日 uses various truncated words. Moreover, the percentages for proper nouns in the *Mainichi* 毎日 and the *Yomiuri* 読売 are much higher than the *Asahi* 朝日.

The third type of media that this dissertation project examined is TV commercials. As mentioned earlier, this study used 37such commercials. These commercials were

categorized into two types according to the intended target audience: (1) family and (2) youth. The categorization of such commercials is described in the following table.

Table 4.35. **Classification of 37 TV Commercials**

	Name of sponsor	Type of business	Category
1	Ajinomoto 1	food	family
2	Ajnomoto 2	food	family
3	Ajinomoto 3	food	family
4	Cosmo Petroleum 1	gas	family
5	Cosmo Petroleum 2	gas	family
6	Cosmo Petroleum 3	gas	family
7	JA Bank 1	bank	family
8	JA Bank 2	bank	family
9	Kinchou 1	other	family
10	Kinchou 2	other	family
11	National 1	kitchen	family
12	National 2	kitchen	family
13	Kureshia	Kleenex	family
14	Sumitomo Life Insurance	life insurance	family
15	Yukiguni Maitake 1	food	family
16	Yukiguni Maitake 2	food	family
17	Yukiguni Maitake 3	food	family
18	Zoujirushi 1	pot	family
19	Zoujirushi 2	pot	family
20	Zoujirushi 3	pot	family
21	Nitomuzu	soap	family
22	Try 1	education	family
23	Try 2	education	family
24	Try 3	education	family
25	Nissan	car	family
26	QP	food	family
27	Unicharm 1	other	family
28	Unicharm 2	other	family
29	Sanko	vending machine	family
30	Shiseido 1	shampoo	youth
31	Shiseido 2	shampoo	youth
32	Shiseido 3	shampoo	youth
33	Shiseido 4	shampoo	youth
34	So-net	internet	youth
35	PlayStation	game	youth
36	Kirihai	socks	youth
37	SSK	sports	youth

As demonstrated, 29 commercials are categorized as those that are targeting family, while 8 commercials are categorized as those that targeting young people. Their *katakana* word usage relative to words written in other script types are charted in relation to the different target groups in Table 4.36.

Table 4.36. **Percentage of Words With Each Script Type in Two Classes of TV Commercials**

	Family	**Youth**
***Katakana* words**	16.74%	21.1%
a. *Gairaigo*	13.45%	17.43%
b. Other *katakana* words	3.29%	3.67%
***Kanji* words**	53.81%	37.61%
***Hiragana* words**	20.78%	17.43%
Alphabetic symbols and numbers	8.67%	23.85%

This table shows interesting results. The use of words written in alphabetic symbols and numbers is extremely high in commercials targeting young people. In contrast, *kanji* words are used most often in commercials targeting family. Accordingly, the use of word type seems to be determined by the targeted audience. Table 4.36 also demonstrates that 13.45% of words used in TV commercials targeting family are *gairaigo* while 17.43% of words used in the commercials targeting young people are *gairaigo*. *Gairaigo* are used more in TV commercials targeting young people than those targeting family. These results can be interpreted to mean that *gairaigo* are intentionally used more for the commercials targeting young people because they are more familiar with foreign words than older people, and they are also expected to want to be more modern and 'hip' in the sense of being 'with it'.

The use of various types of *katakana* words in TV commercials is illustrated in the following table.

Table 4.37. **Percentage of Words Written in *Katakana* in TV Commercials**

	Family	Youth
Gairaigo	80.35%	82.61%
Kango	3.57%	0%
Mixed word	3.57%	0%
Onomatopoeias	2.68%	0%
Proper nouns	0%	0%
Wago	9.82%	17.39%

Gairaigo is the largest *katakana* word group in TV commercials targeting both family and youth. However, the use of *katakana* words for TV commercials for family is different from that for youth. *Katakana* script is used various words in the commercials for family, while such script is used only for *gairaigo* and *wago* in the commercials for the young.

In order to see whether there are differences in the use of various types of *gairaigo* in TV commercials, the data for two groups of TV commercials are provided in Table 4.38 below.

Table 4.38. **Percentage of Different Types of *Gairaigo* in TV Commercials**

	Family	Youth
***Gairaigo*-Japlish**	21.11%	0%
***Gairaigo* from English**	73.33%	78.95%
***Gairaigo* from other languages**	4.44%	21.05%
***Gairaigo*-proper nouns**	0%	0%
***Gairaigo*-truncation**	1.11%	0%

In TV commercials for both family and youth, English is the major source of language for Japanese loanwords. However, there are a few differences in *gairaigo* usages between TV commercials for family and youth. First, various types of *gairaigo* are used in the commercials for family, while only *gairaigo* from English and other languages are used in those for youth. Second, the use of *gairaigo* from other languages is very common in the commercials for young people, since the percentage of this type of *gairaigo* for the young (21.05%) is much higher than that for family (4.44%). From this observation, it

was noted that the use of *gairaigo* in TV commercials is different according to their target audience.

This section examined whether there are some differences in word usage among each type of magazines, newspapers, and TV commercials, and whether there are some differences in *katakana* word usage among them. From these observations, it was found that the use of each word type is different from one newspaper to another, although newspaper companies have a similar strategy for using *katakana* words, including *gairaigo*. In contrast to newspapers, both magazines and TV commercials show large differences in the usage of each type of words based on the targeting audience. Although it was found that there are some differences in *katakana* word use according to targeting audience, there is one common phenomenon found in magazines, newspapers, and TV commercials in terms of the use of *katakana* words. That is, English is the major source language for Japanese loanwords of all the media types.

4.5. Summary of Answers

This dissertation project examined *katakana* word usage in magazines, newspapers, and TV commercials, and provided data to answer the following questions.

(1) Are *katakana* words increasing?
(2) Are *katakana* loanwords, known as *gairaigo*, increasing?
(3) What types of words are written in *katakana* script?
(4) What percentage do *katakana* words comprise of the total words in texts?
(5) What percentage of total *katakana* words are *gairaigo*?
(6) Is there any difference in word usage among different types of media?

In terms of the first two questions above, it was found that both the use of *katakana* words and the use of *gairaigo* are increasing in magazines and newspapers

from various comparisons of the data derived from previous studies and the data uncovered by the dissertation research reported here.

In order to observe what types of words are written in *katakana*, *katakana* words were categorized into the following six groups:

(1) *Gairaigo* (loanwords)
(2) *Kango* (Sino-Japanese words)
(3) Mixed words, words written in a mixture of *katakana* and other script types (*hiragana* and *kanji*))
(4) Onomatopoeia
(5) Proper nouns (names for places in Japan, for Japanese people, and for products)
(6) *Wago* (native Japanese words)

Our findings in respect to current data on *katakana* script usage in the three types of media were demonstrated in Table 4.22 earlier, and such data can now be merged in Table 4.39 below as *katakana* script use in Japanese writings.

***Table 4.39*. Percentage of the *Katakana* Script Use in This Research Project**

	NUMBER	PERCENTAGE
Gairaigo	2,667	91.09%
Kango	29	0.99%
Mixed word	6	0.20%
Onomatopoeia	45	1.54%
Proper nouns	18	0.61%
Wago	163	5.57%
Total	2,928	100%

As in the table, not only *gairaigo* but also other types of words such as *kango* and *wago* are written in *katakana*. These results indicate that *katakana* script is commonly used in Japanese writings for presenting various types of words, including *kango* and *wago,* although *katakana* script is still mainly used for presenting *gairaigo*. This table also provides the answer for the fifth question, as to what percentage of total *katakana* words are *gairaigo*: that is, the answer appears to be that 91.09% of *katakana* words are

gairaigo in the texts. This number indicates that the majority of *katakana* words are *gairaigo*, at least in the texts that this dissertation examined.

The fourth question that this dissertation project examined is what percentage *katakana* words comprise of the total words in texts. The data with β units in Table 4.2 and the data with α units in Table 4.4, as introduced earlier, provide the answer for this question, and data in both tables are repeated in Table 4.40 below.

Table 4.40. **Numbers and Percentages of Words in Each Script Type**

	α Units		**β Units**	
	NUMBER	**PERCENTAGE**	**NUMBER**	**PERCENTAGE**
***Katakana* words**	617	8.39%	2,928	12.95%
***Kanji* words**	4,787	65.12%	13,868	64.33%
***Hiragana* words**	1,866	25.38%	4,927	21.79%
Alphabetic symbols and numbers	81	1.1%	889	3.93%
Total	7,351	100%	22,612	100%

In the data with α units, *katakana* words appear at 8.39%, which are larger than alphabetic symbols and numbers but smaller than both *kanji* words and *hiragana* words. In the data with β units, *katakana* words appear at 12.95%, which is also larger than alphabetic symbols and numbers but smaller than both *kanji* words and *hiragana* words.

The last question that this dissertation examined is whether there is any difference in word usage among the three types of media. In fact, several significant differences were found in this research. First, newspapers tend to use more *kanji* words than other media. Second, TV commercials tend to use more *katakana* words and words written in alphabetic symbols and numbers than other media. The use of *gairaigo* relative to other *katakana* words also revealed several differences according to the types of media. First, newspapers use the least *gairaigo* of all three media while TV commercials use the most *gairaigo.* It was also found that there is a tendency in magazines and newspapers for

kango and *wago* to be written in a conventional style, certainly when in comparison to TV commercials. In other words, TV commercials are more prone to use an unconventional style to present words.

Together with differences in word usage according to different types of media, the observations reported from this dissertation project also noted some differences in word usage among each type of magazines, newspapers, and TV commercials. Magazines for cooking, men's fashion, men's hobby, travel, and women's fashion use more *katakana* words than magazines for gardening, literature, politics and economy, and women's hobby. In terms of the use of *gairaigo*, such words appear most in the travel magazine, and appear least in the gardening magazine. The use of *gairaigo* is also very high in both fashion and hobby magazines for men and women. There are also a couple of noteworthy characteristics illustrated in the use of *gairaigo* in the magazine texts. First, the majority of *gairaigo* used in the magazine for politics and economy is proper nouns. It was also found that truncated words commonly appear in women's fashion magazine. These are significance differences in *katakana* usage in the various magazines.

This dissertation project examined three newspapers, the *Asahi* 朝日, the *Mainichi* 毎日, and the *Yomiuri* 読売. Among these newspapers, the *Yomiuri* 読売 uses the least *katakana* words, and the most *kanji* words. In contrast, the *Asahi* 朝日 uses the most *hiragana* words and the least *kanji* words of all three newspapers. In terms of *gairaigo*, the use of *gairaigo* is increasing in each newspaper since Saiga's study. However, it seems that each newspaper has a different strategy to use various types of *gairaigo*, since percentages of various types of *gairaigo* are different from one newspaper to another.

The *katakana* script use in TV commercials revealed differences according to the target audience. They tend to use more *roomaji* in the commercials targeting the younger generation. On the other hand, *kanji* words are used more in the commercials targeting family. *Katakana* script is used various words in TV commercials for family, while such script is used only for *gairaigo* and *wago* in TV commercials for youth.

4.6. Discussion

From the observation of our research data in comparison with previous research data, it was found that there are some differences in use of each type of words according to types of media, as well as within the category of magazines, newspapers, and TV commercials. Why are there differences in *katakana* script and *katakana* word use according to different types of media? More specifically, why do newspapers use more *kanji* words than magazines and TV commercials? Why does the travel magazine use more *katakana* words, especially *gairaigo*, than other types of magazines? One possible answer to such questions may rest in an assumption on script choice perception considered to possess by Japanese subjects and the effects carried by word types. This assumption was made by Smith and Schmidt (1996) who constructed it on the basis of analyses made by Satake (1989, cited in Smith & Schmidt 1996) and by Nakamura (1983, cited in Smith & Schmidt 1996).

Smith and Schmidt (1996) assume that there is a relationship among script choice by writers, script choice for readers, and stylistic effect, all of which are internalized by the Japanese as stereotypes. Table 4.41 below shows such a relationship.

Table 4.41. **Script Stereotypes**

	Writer/Reader Features	Stylistic Features
Kanji	male, middle-aged and older	erudition
Hiragana	female, young	softness or femininity
Katakana	young, especially male	modernity; pop culture
Roomaji	young, especially female	commerciality

Note. This table is taken from "Variability in Written Japanese: Towards a Sociolinguistics of Script Choice," by J. S. Smith and D. L. Schmidt, 1996, *Visible Language, 30*(1), p. 50.

This table shows that there are some tendencies to use each script type according to types of writers and target audience. *Kanji* are likely to be used more in writings targeting both middle-aged and older people and males, and such script is preferably used by writers who are male or middle-aged and older people, since *kanji* are perceived as more erudite than other scripts. *Hiragana* are preferably used by writers who are female and/or young and are likely to be used more in writings targeting both young people and females, due to the characteristic of softness or femininity possessed by *hiragana*. *Katakana* are preferably used by writers who are young, especially male, and are likely to be used more in writings targeting young males, because such script conveys a sense of modernity and because it can provide a link to pop culture. *Roomaji* are preferably used by writers who are young, especially female, and are likely to be used more in writings targeting young females, because such script can convey commerciality.

A similar discussion by Seaton (2001) also confirms the notion of stereotypic Japanese perceptions toward each script. In his work, *hiragana* projected an image of Japaneseness; at the same time, such script is used for products targeting children, who are more familiar with *hiragana* than *kanji*. In contrast, k*atakana* were perceived as conveying foreign imagery.

Similar to Smith and Schmidt (1996) and Seaton (2001), Shibatani (1990) assumes that each word type provides different perceptions to native Japanese readers. For example, *kango* are perceived as more formal by the Japanese than other word types. In contrast, *gairaigo* convey the effect of modernity and fashionableness.

Because of these features, writers of magazine articles, newspaper articles, and creators of TV commercials are likely to choose appropriate script and word types according to their target audience. For example, newspapers tend to use more *kanji* words than other media, because newspapers aim to convey formal information. Accordingly, *kanji* and *kango* are chosen to write articles. In contrast, TV commercials tend to use more *katakana* words and words written in alphabetic symbols than other media. This is because the commercials aim at conveying a sense of modernity and fashionableness. Thus, *katakana* script and *roomaji* are chosen.

The characteristics of the use of script and word types in magazines can be accounted for by the script and word type perceptions possessed by Japanese people above. Table 4.28 demonstrates the use of script and word types in each magazine, and this table is repeated below as Table 4.42.

***Table 4.42*. Percentage of Words With Each Script Type in Nine Different Magazines**

	cook-ing	**garden-ing**	**literat-ure**	**men's fashion**	**men's hobby**	**politics & economy**	**travel**	**women's fashion**	**women's hobby**
***Katakana* words**	16.62%	7.35%	7.02%	21.53%	18.24%	9.3%	20.60%	23.91%	11.03%
a. *Gairaigo*	14.22%	4.65%	5.80%	19.67%	17.00%	8.55%	19.97%	22.59%	10.32%
b. Other *katakana* words	2.41%	2.70%	1.22%	1.86%	1.23%	0.75%	0.64%	1.32%	0.71%
***Kanji* words**	52.98%	66.12%	62.01%	46.91%	55.27%	62.25%	59.43%	51.29%	63.75%
***Hiragana* words**	25.97%	24.66%	28.65%	26.48%	23.34%	19.46%	16.84%	20.01%	24.14%
Alphabetic symbols and numbers	4.43%	1.87%	2.32%	5.09%	3.14%	5.99%	3.13%	4.79%	1.09%

Kanji words are used largely in magazines for gardening, literature, politics and economy, and women's hobby, as in Table 4.42. The frequent use of *kanji* words in such magazines suggests that these magazines are targeting older people. It was also found that *gairaigo* appear frequently in magazines for travel, fashion, and hobby, and appear least in the gardening magazine. This means that readers of the magazines using *gairaigo* largely are young. Because *gairaigo* convey the effect of modernity and fashionableness, *gairaigo* are frequently used in these magazines. In contrast, the gardening magazine uses least *gairaigo* because their readers are generally of the older generation. On the other hand, this magazine uses *kanji* words frequently, because *kanji* convey the effect of erudition and formality.

Among the three newspapers examined, the *Yomiuri* 読売 uses the least *katakana* words, and this has resulted from the policy that this newspaper adopted in 2003 to reduce *katakana* words in their articles. They have implemented this policy because some such words have been reported to be difficult for their readers to understand (Sekine, 2003a). Interestingly, they use the most *kanji* words of all three newspapers. This implies that they employ a conscious strategy of translating *katakana* words into *kanji* compounds. In contrast, the *Asahi* 朝日 uses the most *hiragana* words and the least *kanji* words of all three newspapers, suggesting that they take a strategy of not using difficult *kanji* characters. Instead of such *kanji*, they tend to present a word in *hiragana*.

TV commercials clearly demonstrated the intentional script/word choice according to the target audience. For example, *gairaigo* and *roomaji* are likely to be used more in the commercials targeting the younger generation, as illustrated in Table 4.36 which is repeated below as Table 4.43.

***Table 4.43*. Percentage of Words With Each Script Type in Two Classes of TV Commercials**

	Family	Young
***Katakana* words**	16.74%	21.1%
a. *Gairaigo*	13.45%	17.43%
b. Other *katakana* words	3.29%	3.67%
***Kanji* words**	53.81%	37.61%
***Hiragana* words**	20.78%	17.43%
Alphabetic symbols and numbers	8.67%	23.85%

By using *gairaigo* and *roomaji*, advertisers wish to convey the sense of modernity and fashionableness in their products and their company. In contrast, *kanji* words are likely to be used more in the commercials targeting family where several generations (parents and children, possibly together with grandparents) form a family unit, and this was also demonstrated in Table 4.43. By using *kanji*, advertisers attempt to show formality and erudition in their products and their company. Suppose that there is a TV commercial about a TV game. Creators of this commercial tend to use more *gairaigo* and tend to choose *katakana* and *roomaji* to present words in the commercial because this commercial's target audience is specifically young people who are considered to prefer words written in *katakana* and *roomaji* to other script types. In fact, Table 4.43 exhibits the evidence that TV commercials targeting youth used *katakana* words including *gairaigo* and words written in alphabet more often than those targeting family.

In comparison with other two media types, TV commercials demonstrated a significant characteristic; that is, they use *kango* and *wago* written in an unconventional style more than other two media types. The reasons why TV commercials possess this tendency can be accounted for by Middleton's (2005) analysis of Japanese advertising. According to Middleton, Japanese advertisements have seven characteristics, different from North American advertisements. First, Japanese advertisements are more focused on

mood and emotion than North American ones. They tend to show "a stimulus to get the audience thinking about the brand rather than delivering a set of messages" (Middleton, 2005: 6). Second, Japanese advertisements tend to use more humor than North American ads. Third, visual factors are valued more than verbal factors in Japanese advertising. Fourth, Japanese advertising tends to use Western models and stars, whose presence is associated with stylistic features. O'Barr (1994, cited in Seaton 2001) describes this phenomenon that Western models and stars are treated as a commodity which is totally different from objects in Japanese everyday life and thus emphasizes exoticism. Fifth, Japanese advertising also uses Japanese celebrities as representatives of the audience who play a role in familiarizing the brand with the audience. Sixth, the majority of commercials (over 80%) are 15 seconds long or less. Lastly, many Japanese ads reflect the socio-economic conditions of the time. For example, commercials for *sake* and other traditional beverages/food have used traditional Japanese images. These characteristics are applied to analyze the high usage of an unconventional style of words in TV commercials.

TV commercials use words in an unconventional style most among the three types of media, because Japanese advertisements are focused on mood and emotion by showing a stimulus to get the audience to know about the brand. It can be assumed that *katakana* words written in an unconventional style are used as the stimuli in the advertisements. Moreover, visual factors are valued more than verbal factors in Japanese advertising. Because of this reason, words in an unconventional style are used most among the three types of media, since such words visually appeal to the audience more than those in a conventional style. In other words, words in an unconventional style stand out and are

thus noticed first by the audience. Additionally, the majority of commercials (over 80%) are 15 seconds long or less. This means that in a short period of time, advertisers need to make the audience know about their brand and products immediately. In order to do so, they tend to use words in an unconventional style, so that the audience will notice their products and brand quickly. Because of the characteristics possessed by Japanese TV commercials, it can be assumed that the usage of an unconventional style of words in TV commercials will be higher than other media types.

Although it was found that there are some differences in *katakana* word use according to targeting audience, there is one common phenomenon found in magazines, newspapers, and TV commercials. That is, English is the major source language for Japanese loanwords of all the media types. It is also found that *katakana* words are essential lexical items to write Japanese writings, since they were always present in the texts examined in this dissertation project. However, most of the *katakana* words examined in this project possess low word frequency, because more than half of *katakana* words appeared only once in texts, suggesting that while new words are often introduced in Japanese writings, they are not repeatedly used and may disappear soon from the Japanese *gairaigo* inventory. Given such findings which suggest a pervasive presence for *katakana* words in modern Japanese writings, we will next examine *katakana* words in relation to the foreign learners of Japanese who need to be apprised of this orthographic phenomenon in their acquisition of the language.

Chapter 5
How are *Katakana* Script and *Katakana* Words Treated in Textbooks for Foreign Learners of Japanese?

5.1. Introduction

After 1945, the use of *katakana* for writing has become less frequent than before, since the *kanji-hiragana* writing style was adopted as the norm for writing all official documents. The implementation of this writing style resulted in the use of *hiragana* script more frequently than ever before and in less attention to teaching *katakana* script and *katakana* issues in comparison with teaching *kanji* and *hiragana* in educational settings. These tendencies can also be seen in Japanese language educational materials for foreign learners.

This chapter examines how *katakana* script and issues relevant to *katakana* words are taught to foreign learners of Japanese. In particular, textbooks for them will be analyzed from three perspectives:

(1) how many *katakana* words are used in textbooks in comparison with *kanji* and *hiragana* words
(2) how *katakana* script and issues relevant to *katakana* words are dealt with in textbooks
(3) whether *katakana* words used in textbooks match with the basic vocabularies proposed by the National Language Research Institute and with vocabularies obtained from this dissertation's research project examining magazines, newspapers, and TV commercials

By describing the general thrust of textbooks for learners of Japanese, this chapter aims to demonstrate one of the factors that cause difficulty with *katakana* words for foreign learners of Japanese. More specifically, it is assumed that one of the major reasons why foreign learners have difficulty with *katakana* words arises from an underdeveloped sense of *katakana* script. Part of this lack may be traced back to the way textbooks treat

such words. Thus, this chapter attempts to demonstrate that the learners' pedagogical experience with *katakana* words and *katakana* script is minimal, because such words appear infrequently in textbooks.

5.2. Textbook Selection

The Japan Foundation provides a list of textbooks for learners of Japanese: there are 42 textbooks in total on the list, some of which are for beginners and others are for intermediate to advanced learners (see Urawa Japanese Language Institute in the Japan Foundation, 2004). Textbooks that are examined in this chapter are only those currently used in Canadian post-secondary institutions, since the purpose of this observation is to describe how learners of Japanese in post-secondary institutions are currently taught *katakana* script and issues relevant to *katakana* words. According to the Japan Foundation (2004), 39 Canadian post-secondary institutions offer Japanese language courses. Although some schools post their syllabi on their website, most of them do not. Such schools were contacted by e-mail to find what textbooks they are using. There are 15 textbooks currently used in the 19 Canadian schools[21] that responded, and these appear in the table below.

[21] The 19 institutions are University of Victoria, University of British Columbia, Camosun College, University College of the Fraser Valley, Malaspina University-College, Okanagan University College, Kwantlen University College, Langara College, University of Alberta, University of Calgary, Mount Royal College, University of Regina, Carleton University, Brock University, Queen's University, University of Windsor, York University, College de Bois-de-Boulogne, and Memorial University of Newfoundland.

Table 5.1. **List of Textbooks Used in Canadian Post-Secondary Institutions**

	Title	Author	Year	Publisher
1	Youkoso ようこそ 1	Tohsaku	1999a	McGraw-Hill College
2	Nakama なかま 1	Makino et al.	2000	Houghton Mifflin Company
3	Genki げんき 1	Banno et al.	1999	The Japan Times
4	Interactive Japanese 1	Summerell et al.	2001a	University of Calgary
5	Spoken Japanese through video skits 1 (Video *de manabu Nihongo* ビデオで学ぶ日本語)	Sakata & Sakuma	1990	Kenkyuusya
6	Youkoso ようこそ 2	Tohsaku	1999b	McGraw-Hill College
7	Nakama なかま 2	Hatasa et al.	2000	Houghton Mifflin Company
8	Genki げんき 2	Banno et al.	1999	The Japan Times
9	Interactive Japanese 2	Summerell et al.	2001b	University of Calgary
10	An integrated approach to intermediate Japanese (*Chuukyuu no Nihongo* 中級の日本語)	Miura & Hanaoka-McGloin	1994	The Japan Times
11	Authentic Japanese: Progressing from intermediate to advanced	Kamada et al.	1998	The Japan Times
12	Japanese: The spoken language 1	Jorden & Noda	1987	Yale University Press
13	Japanese for beginners	Yoshida et al.	1976	Gakken
14	An introduction to modern Japanese	Mizutani & Mizutani	1977	The Japan Times
15	Learn Japanese	Young & Nakajima-Okano	1984	University of Hawaii Press

Items (1)-(5) are used for lower beginners, items (6)-(9) are for upper beginners, and items (10)-(11) are for intermediate to advanced learners. Items (12)-(15) are all written in *roomaji*, and instructions are in English. Because we cannot see the rate of *katakana* words in comparison with *kanji* and *hiragana* vocabularies in the textbooks written extensively in *roomaji*, they are excluded from this chapter's observations. Accordingly, 11 textbooks in total are examined: five items (1)-(5) for lower beginners; four items (6)-(9) for upper beginners; and two items (10)-(11) for intermediate to advanced learners.

5.3. Textbook Analysis

5.3.1. The Ratio of *Katakana* Words Used in Textbooks in Comparison With *Kanji* and *Hiragana*

This section examines the ratio of *katakana* words used in the textbooks in comparison with words written in *kanji* and in *hiragana*. In particular, the list of vocabulary items in each textbook is made note of, and each word is counted once even though it may appear several times in the textbook. If the percentage of *katakana* word usage is lower than that of *kanji* words and of *hiragana* words, it can be inferred that the learners are unable to familiarize themselves with *katakana* script for many *katakana* words since they do not appear frequently in textbooks.

First, the number for each of the following three types of words is counted in all 11 textbooks: (1) *katakana* words, (2) *kanji* words, and (3) *hiragana* words. *Katakana* script is generally not only used for loanwords but also for onomatopoeia and for emphasis[22]. Moreover, some *katakana* words are formed by *katakana* combining with either *kanji* or *hiragana* or with both, as in ジェット機 *jettoki* 'jet aircraft' (the last character is *kanji* and the rest are *katakana*) and 消しゴム *keshigomu* 'eraser' (the first character is *kanji*, the second character is *hiragana*, and the rest are *katakana*). Words containing *katakana* script are all treated as *katakana* words in this observation. Some *kanji* words are formed with *hiragana*, since *hiragana* script is used for presenting inflections as in 食べる *taberu* 'to eat' and since some compounds are formed by *kanji* and *hiragana* as in 玉ねぎ *tamanegi* 'onion'; in these two words, the first character is written in *kanji* and the rest are written in *hiragana*. *Hiragana* used in these conditions

[22] Detailed explanation of this specific *katakana* use will be outlined in Chapter 6.

are regarded as being a part of *kanji* words in this observation, and so in this discussion *hiragana* words are those purely consisting of *hiragana*. Table 5.2 illustrates the ratio of words in each script type in each textbook.

Table 5.2. **Ratio of Words in Each Script in 11 Textbooks**

		Textbooks	**Ratio of *katakana* words(%)**	**Ratio of *kanji* words(%)**	**Ratio of *hiragana* words(%)**
A	**1**	Youkoso ようこそ 1	24.1%	61.7%	14.2%
A	**2**	Nakama なかま 1	16.1%	65.3%	18.6%
A	**3**	Genki げんき1	9.0%	73.2%	17.8%
A	**4**	Interactive Japanese 1	13.3%	62.2%	24.5%
A	**5**	Spoken Japanese through Video Skits 1	21.7%	50.6%	27.7%
		Average ratio in Group A	**16.84%**	**62.6%**	**20.56%**
B	**6**	Youkoso ようこそ 2	15.0%	77.6%	7.4%
B	**7**	Nakama なかま 2	14.3%	76.2%	9.5%
B	**8**	Genki げんき 2	9.5%	72.0%	18.5%
B	**9**	Interactive Japanese 2	8.6%	73.3%	18.1%
		Average ratio in Group B	**11.85%**	**74.775%**	**13.375%**
C	**10**	An integrated approach to intermediate Japanese	6.6%	80.2%	13.2%
C	**11**	Authentic Japanese	7.7%	81.7%	10.6%
		Average ratio in Group C	**7.15%**	**80.95%**	**11.9%**

Note. The number of vocabulary items in each script type is demonstrated in Appendix A. Items (1)-(5) are for lower beginners, items (6)-(9) are for upper beginners, and items (10)-(11) are for intermediate to advanced learners. These three item groups are named Group A, Group B, and Group C, respectively.

Table 5.2 raises a few interesting points for discussion. First, *katakana* words in textbooks of Group A appear to be more frequent than it was expected; Hatano (1991, cited in Nozaki, Chikamatsu, & Yokoyama n.d.) found that only up to 6.7% of words are *katakana* words in his study. In the observation carried out for this dissertation, 16.84% of words on average are *katakana* words in Group A's textbooks. Although the ratio of *katakana* words is high in textbooks for Group A, this ratio is not maintained in textbooks

for Group B and C. Note that item (1) demonstrates a higher ratio of *katakana* words than *hiragana* words, and this possibly derives from the fact that this is the only textbook that uses *katakana* for onomatopoeia.

The second interesting point is that the ratio of *kanji* words in Group C is higher than Group B, and that the ratio in Group B is higher than Group A. This indicates that the higher the level of learners is, the more *kanji* words are used. In contrast, the ratios for both *hiragana* and *katakana* words in Group A are higher than Group B, and those in Group B are higher than Group C. This suggests that the lower the level of learners is, the more *kana* words are used.

By looking at the difference in average ratio of words in each script type, we note other interesting issues. Such differences are illustrated in Table 5.3.

Table 5.3. **Difference in Ratio Between Three Groups**

		***Katakana* words**	***Kanji* words**	***Hiragana* words**
I	**Group B – Group A**	-4.99	12.175	-7.185
II	**Group C – Group B**	-4.7	6.175	-1.475

The numbers in row I in Table 5.3 indicate differences in the average ratio of each type of the words between Group B and Group A (this is the average ratio of Group B minus average ratio of Group A in Table 5.2). And the numbers in row II indicate differences in the average ratio of each type of the words between Group C and Group B (this is the average ratio of Group C minus average ratio of Group B in Table 5.2). For example, the average ratio in Group B for *katakana* words is 11.85, and the average ratio in Group A for *katakana* words is 16.84, as seen in Table 5.2. When we minus 16.84 from 11.85, we get –4.99. This obtained number indicates the decrease in 4.99% *katakana* words from Group A to Group B on average. Other numbers for each word type between Group B

and Group A, as well as between Group C and Group B are calculated in the same way as the difference in *katakana* words between Group B and Group A.

The differences in Table 5.3 clearly shows the significant increase in ratio of *kanji* words relative to other words: *kanj*i words increase at 12.175% from Group A to B, and at 6.175% from Group B to C. Contrastively, the difference between Group A and B in terms of *hiragana* words and *katakana* words shows one characteristic: the ratio of both types of words is decreasing. For example, *katakana* words decrease at 4.99% from Group A to B, and at 4.7% from Group B to C. *Hiragana* words decrease at 7.185% from Group A to B, and at 1.475% from Group B to C.

Another interesting aspect illustrated in Table 5.3 is that Group C exhibits a 4.7% decrease in *katakana* words from Group B; in contrast, Group C exhibits only a 1.475% decrease in *hiragana* words from Group B. In other words, the ratio of *katakana* word use becomes lower as learning level becomes higher, while the ratio of *hiragana* word use remains at the same level from upper beginners to intermediate.

One of the clear findings from the observation above is that, as the level of learning goes higher, *kanji* words increase, while both *hiragana* and *katakana* words decrease. This is the tendency of textbooks for learners of Japanese. But the decrease of *hiragana* words may not be as noticeable as that of *katakana* words, because it seems that *hiragana* script is used in various ways in textbooks. In contrast, *katakana* script is largely used for introducing loanwords so that the decrease in number of *katakana* words indicates a significant decrease in *katakana* script usage in textbooks. In order to see whether these assumptions are appropriate, the following section examines how both *katakana* script and *hiragana* script are used in textbooks.

5.3.2. *Katakana* Script and *Hiragana* Script in Textbooks

Both *hiragana* and *katakana* are taught at the beginning of a typical Japanese language course. In particular, *hiragana* script is used extensively in lower level textbooks in order to familiarize learners with the Japanese writing system, and this is addressed by most of the textbooks that this chapter is evaluating. Then, how is *hiragana* script used in textbooks? And how are *katakana* script and issues relevant to *katakana* words taught in textbooks? In order to answer these questions, textbooks are examined from the following eight perspectives:

(1) whether there is a list of the *katakana* script symbols in the *katakana* syllabary
(2) which script is used for *on*-readings and *kun*-readings for *kanji* symbols in a *kanji* list (e.g., 本 = ホン *hon* (its *on*-reading presented by *katakana*) and もと *moto* (its *kun*-reading presented by *hiragana*))
(3) whether there is a description of *katakana* usages (i.e., There are two types of *katakana* usages: (1) *katakana* script is used for *gairaigo*, as in ルーム *ruumu* 'room', and (2) *katakana* script is used for presenting *wago* and *kango* written in an unconventional style, as in ホン*hon* 'book'. Conventionally such words are written in *kanji* or *hiragan*a.)
(4) what type of script (*hiragana* or *katakana*) is used for presenting onomatopoeia (e.g., whether *katakana* is used for onomatopoeia, as in ワンワン *wanwan* 'bowwow', or whether *hiragana* is used for onomatopoeia, as in わんわん *wanwan* 'bowwow')
(5) whether there is a chapter specifically designated for teaching *katakana* script
(6) what type of script is used for reading of *kanji* (*furigana* for *kanji*); that is, whether *furigana* are presented in *hiragana* or in *katakana* (e.g., 本(ほん) (*hiragana*) or 本(ホン) (*katakana*) *hon* 'book')
(7) whether *katakana* words are provided with readings in *hiragana* (*furigana* for *katakana*) (e.g., カナダ(かなだ) *kanada* 'Canada')
(8) whether *hiragana* is used exclusively until *kanji* are introduced for presenting instructions and dialogues

The observation results are illustrated in Table 5.4, and explanations of data for each textbook on the table follow.

Table 5.4. **Results of Textbook Observation**

Textbooks		**Youkoso ようこそ 1**	**Nakama なかま 1**	**Genki げんき1**	**Interactive Japanese 1**	**Spoken Japanese through Video Skits 1**
List of KK		Yes	Yes	Yes	N/A	No
***on*-readings and *kun*-readings for KJ**	***on*-readings**	N/A	KK	KK	N/A	N/A
	***kun*-readings**	N/A	HG	HG	N/A	N/A
Description of the KK usage	**loanwords**	Yes	Yes	Yes	Yes	No
	unconven-tional style	Yes	No	No	No	No
Onomatopoeias		KK	HG	HG	HG	HG
Chapter for KK		½	½	1	No	No
***Furigana* for KJ**		HG	HG	HG	N/A	HG
***Furigana* for KK in HG**		No	Yes	Yes	N/A	Yes
Text written only in HG		No	Yes	No	Yes	No

Note. HG in the table indicates *hiragana*, KK indicates *katakana*, and KJ indicates *kanji*.

Youkoso ようこそ 1 provides a list of *katakana* script, and an extensive description of the Japanese writing system, including the usage of *katakana* for loanwords and for words written in an unconventional style. This textbook displays various examples of *katakana* loanwords; however, it does not provide any examples of *katakana* words which have been written in an unconventional style. Onomatopoetic words are written in *katakana* (e.g., ワンワン *wanwan* 'bowwow'). One chapter is designated to teach both *hiragana* and *katakana*: two sections provide explanations on *hiragana* usage and two sections on *katakana* usage. *Hiragana* script is used for giving readings for *kanji* (e.g., 本(ほん) *hon* 'book'); and such usage of *hiragana* is called *furigana*. *Katakana* words are not provided with readings in *hiragana*. The first chapter is written entirely in *roomaji,* while

the rest of chapters are written in *hiragana* and *kanji*. There is no list of *kanji* symbols with *on*-readings and *kun*-readings in this textbook.

Nakama なかま *1* provides a list of *katakana* script symbols. There is a list of *kanji* indicating two types of readings: *on*-readings and *kun*-readings. *On*-readings are presented in *katakana*, and *kun*-readings are in *hiragana*: 本 = ホン *hon* (*on*-reading) and もと *moto* (*kun*-reading). There are some explanations on the usage of *katakana* script for loanwords, but the explanation of *katakana* usage on words written in an unconventional style is not provided. Onomatopoetic words are presented in *hiragana* (e.g., わんわん *wanwan* 'bowwow'). Chapter 1 is designated to teach *hiragana*, and half of Chapter 3 is designated to teach *katakana*. *Hiragana* script is used for *furigana* readings of *kanji* (e.g., 本(ほん) *hon* 'book'). *Furigana* are also used for *katakana* until *katakana* are introduced in Chapter 3 (e.g., カナダ(かなだ) *kanada* 'Canada'). *Hiragana* script is exclusively used for presenting dialogues and providing instructions until *kanji* are introduced in Chapter 7. From Chapter 7 on, *hiragana* and *kanji* are used together.

Genki げんき *1* provides a list of *katakana* script symbols. There is also a *kanji* list with *on*-readings (*katakana*) and *kun*-readings (*hiragana*): 本 = ホン *hon* (*on*-reading) and もと *moto* (*kun*-reading). There are some explanations about the usage of *katakana* script for loanwords, but the explanation of *katakana* usage on words written in an unconventional style is not provided. Onomatopoetic words are presented in *hiragana* (e.g., わんわん *wanwan* 'bowwow'). Chapter 1 is designated to teach *hiragana*, and Chapter 2 is set aside to teach *katakana*. *Furigana* for *kanji* are in *hiragana* (e.g., 本(ほん) *hon*

'book'), and *katakana* are also provided with *furigana* in *hiragana* until *katakana* are introduced in Chapter 2 (e.g., カナダ(かなだ) *kanada* 'Canada'). From Chapter 1 on, *hiragana* and *kanji* are used for presenting dialogues and providing instructions.

With regard to the textbook, *Interactive Japanese 1*, only a vocabulary list and a section explaining how to use this textbook for students was available, so that some of the information about textbooks that this chapter is surveying is missing in the table above. This textbook provides a description of *katakana* word usage for loanwords, but it does not explain *katakana* words written in an unconventional style. Onomatopoeia is presented in *hiragana* (e.g., わんわん *wanwan* 'bowwow'). There is no chapter designated to teach *katakana* script and *katakana* words exclusively. The first four chapters are written in *roomaji*. In Lesson 5, *hiragana* are exclusively used, and *kanji* are introduced in Lesson 6, so that dialogues and instructions are written in *kanji* and *hiragana* from Lesson 6 on.

Spoken Japanese through Video Skits 1 provides a list of *hiragana* script, but not *katakana* script. There is no list of *kanji* symbols with *on*-readings and *kun*-readings in this textbook. Onomatopoeia is presented in *hiragana* (e.g., わんわん *wanwan* 'bowwow'). There is no chapter designated to teach *katakana* script and *katakana* word usage. *Furigana* for *kanji* are written in *hiragana* (e.g., 本(ほん) *hon* 'book'). Since this textbook does not teach *katakana* script in this volume, *katakana* script is provided with *furigana* in *hiragana* (e.g., カナダ(かなだ) *kanada* 'Canada'). From the first lesson on, *hiragana* and *kanji* are used for presenting dialogues and providing instructions.

The textbook analysis above has revealed a few tendencies with regard to the use of *katakana* script and *hiragana* script. First, after the chapter focusing on teaching *katakana* in textbooks, learners of Japanese infrequently see *katakana* words, unless loanwords are used in dialogues and exercises. Thus, the decrease in number of *katakana* words, noted in the previous section, can negatively affect development of familiarity with learners' *katakana* script; the learners may not be able to develop familiarity with a sufficient range of *katakana* script at all. Second, the acquisition of *hiragana* is given priority over *katakana*, and this is exemplified by the fact that *hiragana* are used for providing *furigana* for *kanji* and that, in some cases, chapters are written exclusively in *hiragana* until *kanji* are introduced in some textbooks. Furthermore, onomatopoetic words are generally presented in *hiragana*. *Hiragana* script is used in variety of ways in textbooks, and as a consequence of these script practices, the learners quickly develop processing expectations for *hiragana*, but not for *katakana*.

It is evident that *katakana* are given little attention by textbook authors and language instructors, since *katakana* are simply used for teaching script and for introducing loanwords. Accordingly, teachers inform students only that *katakana* words are loanwords which originate in languages from the West. They do not draw students' attention to the specific features of *katakana* words, that is, that some *katakana* words are not loanwords but they are written in an unconventional style. For example, except for *Youkoso* ようこそ *1*, textbooks do not mention such *katakana* usage.

It is usually claimed that most of these loanwords are from English, and indeed, most, but by no means all, of the loanwords do originate in English. Data in the National Language Research Institute's study (1964) reveal that 80.8% of loanwords are from

English, 5.6% of are from French, 3.3% are from German, and the rest are from other European languages such as Italian, Dutch, and Portuguese. The cross-check study carried out in this dissertation, and presented in Chapter 4, also confirmed that English is the major source of *gairaigo*.

Because most loanwords are from English, teachers simply assume that it is easy to recognize loanwords for learners of Japanese whose L1 is English. Thus, teachers do not teach transliteration rules for *katakana* loanwords from Japanese to English to the learners, and this is certainly supported by our textbook observations that revealed the fact that no textbooks exhibit such rules. As a result, learners do not know how loanwords should be transliterated to English, and they cannot quickly access the meaning of *katakana* words; instead, for unfamiliar words they can process and comprehend these words after considerable effort in applying transliteration rules which they have only worked out intuitively. Accordingly, their perceptions are that *katakana* loanwords are difficult to process and comprehend.

5.4. Do *Katakana* Words Used in Textbooks Match With Basic Words Provided by the National Language Research Institute/NLRI and With Words Obtained From This Dissertation's Research Project?

Another crucial question was raised in the introduction in this chapter: Do *katakana* words used in textbooks match with the basic vocabularies for Japanese language teaching provided by the National Language Research Institute/NLRI and with the vocabularies obtained from this dissertation's research project in Chapter 4? This section will therefore observe what *katakana* words appear in textbooks for learners of Japanese in comparison with basic vocabularies published by the NLRI. This section will

also compare these with the vocabularies obtained from this dissertation project examining magazines, newspapers, and TV commercials.

The NLRI (1984) listed a set of basic vocabularies for Japanese language teaching. Such vocabularies were provided on the basis of a list of fundamental vocabularies first issued in 1964 by the NLRI, which was further compared to other six major vocabulary lists designed for learners of Japanese. The 1984 list was then developed as a guideline for Japanese language teaching for foreigners. This section attempts to chart the statistical tendency for loanwords by a comparison of vocabularies between the 11 textbooks for learners of Japanese and the 1984 NLRI list.

The following table illustrates what percentage of words in each textbook matches the basic words in the 1984 list.

Table 5.5. **Comparison of *Katakana* Words Between 11 Textbooks and Basic Words Proposed by the NLRI**

	I	II	III	IV
Textbook	**(A) Total matches**	**(A)/total 292 words[a] = %**	**(B) *Katakana* word items in each textbook[b]**	**(A)/(B) = %**
1. Youkoso ようこそ 1	143	49%	429	33.3%
2. Nakama なかま 1	81	27.7%	189	42.9%
3. Genki げんき 1	46	15.8%	87	52.9%
4. Interactive Japanese 1	22	7.5%	30	73.3%
5. Spoken Japanese through Video Skits 1	72	24.7%	135	53.3%
6. Youkoso ようこそ 2	55	18.8%	270	20.4%
7. Nakama なかま 2	52	17.8%	163	31.9%
8. Genki げんき 2	79	27.1%	162	48.8%
9. Interactive Japanese 2	25	8.6%	42	59.5%
10. An integrated approach to intermediate Japanese	28	9.6%	100	28.0%
11. Authentic Japanese	20	6.8%	120	16.7%
Average	56.64	19.4%	157	36.1%

Note. [a]The vocabulary comparison list between each textbook and the 1984 NLRI list is detailed in Appendix B.1 and B.2.
[b]These numbers are taken from '(A) Number of *katakana* words' in Appendix A.

The numbers in column II in Table 5.5 show what percentage of *katakana* words in the 1984 list is used in the 11 textbooks that this chapter is evaluating. Textbook (1) uses 49% of the words in the 1984 list, a considerably high rate when compared to the others. Textbooks (4) and (9) have low percentages, because their vocabularies reflect localisms; they use a number of words relevant to Canada, which are not included in the 1984 list. Textbooks (10) and (11) also have low percentages, possibly because these textbooks are designed for intermediate to advanced learners. Textbooks (10) and (11) also intentionally use a number of vocabularies from variety of fields, thus not necessarily using vocabularies in the 1984 list which are for beginners. Other textbooks use between 15.8% and 27.7% of words from the 1984 list.

The numbers in column IV in Table 5.5 illustrate what percentage of *katakana* words in the 1984 list comprise the entire *katakana* vocabularies in each textbook. More than 50% of vocabularies in Textbooks (3), (4), (5), and (9) match with the vocabularies in the 1984 list. Of these four textbooks, Textbook (5) is published in 1990, and it is possible that vocabularies in the 1984 list were consciously used in this textbook. Other textbooks are all published after 1994. Textbooks (10) and (11) are designed for intermediate to advanced learners. Although these textbooks possess over 100 *katakana* words in their vocabulary list, the rate of matching vocabularies is low because the 1984 list is designed for lower and upper beginners. Textbooks (1), (2), (7), and (8) use 30% to 50% of vocabularies in the 1984 list. Textbook (6) published in 1999 shows that only 20.4% of words in the 1984 list are used, although it uses a large number of *katakana* words. This suggests that some *katakana* words in the 1984 list may have become obsolete in the 15 years from its issuing, although this list aims to provide basic

vocabularies for learners of Japanese. In other words, many other *katakana* loanwords are more frequently used in Japanese daily life, and this is possibly reflected in these textbooks, particularly in Textbook (6).

Given the analysis of the *katakana* word comparison between textbooks and the basic vocabulary list, two assumptions can be made with regard to the use of *katakana* words. First, the *katakana* words used by Japanese society are not static, and new words are always being introduced. Second, some words gain popularity at one period of time, but soon become obsolete. Such tendencies have already been pointed out by Inoue (2004), and the results of this dissertation project, as illustrated in Chapter 4, also confirm these tendencies. For example, the following table exhibits how often one word appears in texts of the magazines, newspapers, and TV commercials examined in Chapter 4.

***Table 5.6*. List of *Katakana* Word Frequency in Magazines, Newspapers, and TV Commercials**

	The number of words	Word frequency (total of 1172 words)
1 time	660	56.31%
2 times	217	18.52
3 times	107	9.13
4 times	52	4.44
5 times	32	2.73
6 times	17	1.45
7 times	19	1.62
8 times	13	1.11
9 times	10	0.85
10 times	7	0.6
11 times	6	0.51
12 times	8	0.68
13 times	6	0.51
14 times	1	0.09
15 times	1	0.09
16 times	2	0.17
18 times	2	0.17
22 times	2	0.17
23 times	1	0.09
24 times	2	0.17
25 times	2	0.17
26 times	3	0.26
27 times	1	0.09
35 times	1	0.09

Note. Word frequency in each row is calculated by the following formula: NUM/1172. The list illustrating each word item with its frequency is on the database whose website is http://lettuce.tapor.uvic.ca/cocoon/projects/katakana/stemmed.xq?segtype=kat&markup=small_units.

In the research in Chapter 4, 1172 different *katakana* words are obtained from the examined materials. As demonstrated in Table 5.6, 56.31% of words only appeared once in all of the texts examined in this research project, 18.52% of words appeared twice in the texts, and 9.13% of words appeared three times in the texts. A total of these numbers is 83.96%, indicating that 83.96% of words only appeared less than four times in all of the texts examined in Chapter 4.

The most important point indicated in Table 5.6 is that more than half of *katakana* words appeared only once, suggesting that new words are often introduced in Japanese writings, but they are not repeatedly used and may disappear soon. So they will not be rooted in Japanese lexicon. Looking at this phenomenon from textbook authors' point of view, it is obvious that they face difficulties in reflecting *katakana* words in textbooks, as they try to keep track of this phenomenon. The following table illustrates how many words used in the 11 textbooks in this chapter match with the vocabularies obtained from the research project, reported in Chapter 4 above, which examined magazines, newspapers, and TV commercials. Note that only 104 words with high-frequency (items which appeared more than 6 times in the 2005 texts examined) are used for comparison with words in the 11 textbooks.

Table 5.7. **Comparison of *Katakana* Words Between 11 Textbooks and Words Obtained From the 2005 Research Reported in Chapter 4**

	I	II	III	IV
Textbook	**(A) Total matches**	**(A)/total 104 words[a] = %**	**(B) *Katakana* word items in each textbook[b]**	**(A)/(B) = %**
1. Youkoso ようこそ 1	28	26.9%	429	6.5%
2. Nakama なかま 1	17	16.4%	189	9.0%
3. Genki げんき 1	11	10.6%	87	12.6%
4. Interactive Japanese 1	3	5.8%	30	10.0%
5. Spoken Japanese through Video Skits 1	10	9.6%	135	7.4%
6. Youkoso ようこそ 2	7	6.7%	270	2.6%
7. Nakama なかま 2	10	9.6%	163	6.1%
8. Genki げんき 2	16	15.4%	162	9.9%
9. Interactive Japanese 2	7	6.7%	42	16.7%
10. An integrated approach to intermediate Japanese	8	7.7%	100	8.0%
11. Authentic Japanese	5	4.8%	120	4.2%
Average	11.1	10.7%	157	7.1%

Note. [a]The vocabulary comparison list between each textbook and the 2005 data obtained from this dissertation's research project is provided in Appendix C.1 and C.2.
[b]These numbers are taken from '(A) Number of *katakana* words' in Appendix A.

The numbers in column II in Table 5.7 show what percentage of *katakana* words in the 2005 study in Chapter 4 is used in the 11 textbooks that this chapter is evaluating. Textbook (1) uses 26.9% of the words in the 2005 study, and this percentage is a considerably higher rate compared to others. Textbooks (2), (3), and (8) also have relatively high percentages compared to others, but still their percentages are below 20%.

The numbers in column IV in Table 5.7 illustrate what percentage of *katakana* words in the 2005 study comprise the entire *katakana* vocabularies in each textbook. Only Textbooks (3), (4), and (9) match with the vocabularies in the 2005 study at over 10%, and others match with the vocabularies at below 10%. The percentages of matching words are significantly low in this comparison. This suggests a mismatch, in that not many *katakana* words that are used in the textbooks also appear in current Japanese writings. The vocabularies in the 2005 study comparing with the 11 textbooks can be considered as common in Japanese writings since their word frequency is quite high in Table 5.6. Accordingly, one can speculate that learners of Japanese have less exposure to common *katakana* words than one would expect from a survey of reading current Japanese writings. However, this situation is not ideal for the learners because their *katakana* word knowledge developed from the current textbooks in Japanese language courses is not sufficient for them to read the current Japanese writings. As suggested by Prem (1991), a gap of *katakana* words between textbooks for foreign learners and such writings need to be filled. By reducing the gap, Japanese can become much easier to learn for the learners (Prem, 1991).

5.5. Discussion

When viewing the development of learners' sense of familiarity with *katakana* script from a pedagogical perspective, it becomes clear that most second-language educators are not aware of the importance of this factor and rarely respond to it in their approach to teaching Japanese to foreign learners of Japanese. This lack of awareness is compounded by the fact that pedagogical texts rarely address this fact in their presentations. This lack is easily illustrated by the results of the textbook analysis carried out specifically for this dissertation and discussed above.

For example, it was found that *katakana* words simply appear in textbooks to represent foreign loanwords, and not in any particular response to the development of learners' sense of familiarity with *katakana* script. Thus, when the number of *katakana* words is at the low end of the continuum, the learners do not have sufficient opportunity to develop *katakana* familiarity with the syllabary as a whole. In contrast, *hiragana* script frequently appears in textbooks since it is used for presenting *furigana* for *kanji*, onomatopoeia, and others. As a result of this script use in textbooks, foreign learners of Japanese can develop the sense of familiarity with *hiragana* script to a high level, although the number of *hiragana* words decreases as their abilities in written Japanese increase.

Several studies provide supportive evidence that foreign learners of Japanese are less familiar with *katakana* script than *hiragana* script. Hatta and Hirose (1984) examined the *katakana* word processing between Australian and Japanese subjects, and found that Japanese subjects processed both Japanese words and English loanwords

presented in their conventional *kana*[23] faster than such words presented in their unconventional *kana*, but the effect was more significantly demonstrated when foreign loanwords were presented in *katakana* than when native Japanese words were presented in *hiragana*. In contrast, Australian subjects showed this effect in *hiragana*, but not in *katakana*. Chikamatsu (1996) found that beginners take longer time to recognize words in *katakana* than those in *hiragana* on Japanese lexical judgment tests. She accounted for this phenomenon by learners' familiarity of the scripts in association with Japanese language education where *hiragana* are extensively used at the beginning level of such education while *katakana* are simply used for presenting loanwords and students' names. Because of these teaching practices, Chikamatsu speculates that the learners can familiarize themselves largely with *hiragana* but cannot familiarize themselves sufficiently with *katakana*. Given these study results, we can clearly see that foreign learners are less familiar with *katakana* than *hiragana*.

Perhaps learners do not develop sufficient *katakana* word recognition ability, if they are being taught written Japanese through the current teaching procedures. This can lead to processing shortfalls, since contemporary Japanese writings continue to use a considerable number of old and new *katakana* words. The following data from this dissertation's research project confirm that *katakana* script is as essential as *kanji* and *hiragana* to read Japanese writings.

[23] *Hiragana* are conventionally used for native Japanese words, and *katakana* are conventionally used for loanwords.

***Table 5.8*. Percentage of Words in Each Script Type in Magazines, Newspapers, and TV commercials**

	Magazines	Newspapers	TV commercials	Average
***Katakana* words**	15.00%	5.73%	17.35%	12.69%
***Kanji* words**	58.38%	72.23%	51.54%	60.72%
***Hiragana* words**	22.97%	18.24%	20.31%	20.51%
Other items	3.65%	3.81%	10.80%	6.09%

Note. Other items in the table mean words written in numbers and alphabetic symbols.

The numbers in Table 5.8 above indicate the proportion of each word type as categorized by script types. The use of *katakana* words in all types of media is smaller than the use of *kanji* words. However, the use of *katakana* words and *hiragana* words in magazines and in TV commercials are very close in number, an extremely important finding. Given this evidence, it is obvious that *katakana* words appear frequently in the popular Japanese writings accessed by the widest possible public readership, although its percentage continues to be lower than *kanji* words. *Katakana* script is obviously a necessary item for reading in Japanese, and this dissertation concludes that foreign learners need to establish and maintain a sufficient level of *katakana* word recognition ability.

Contemporary Japanese society seems to keep introducing new *katakana* words, while unpopular words become obsolete in a short period of time when such words are no longer used by people. Textbooks cannot easily catch up with introducing new *katakana* words by getting rid of obsolete words, and thus words that they introduce at any given point may not be used as frequently in newspapers and magazines while many words that they have never learned are in current writings. The vocabularies that foreign learners acquire in the textbooks may not in themselves be enough to read in contemporary Japanese writings. In order to read current written prose in the most popular outlets for writing, they need sufficient *katakana* script exposure in general which can help them ultimately develop a sufficient level of *katakana* word recognition ability.

How can the learners be supported to develop such an ability? This dissertation proposes that one of the most efficient methods to develop this ability is a reconsideration of language education curriculum, particularly in respect to the organization of textbooks. Textbooks can be improved by employing following suggestions which specifically concern the development of the sense of familiarizing with *katakana* script. First, textbooks need to have a chapter dedicated to teach *katakana* script, *katakana* words, and issues relevant to *katakana* words. All textbooks for learners of Japanese need to have a chapter for these themes where explanation of the three types of *katakana* script usage is provided. Such usages refer to loanwords, words written in an unconventional style, and onomatopoeia. Second, *katakana* is taught first. After developing the sense of familiarity with *katakana* script, *hiragana* is taught. Accordingly, textbooks in the initial few chapters are written in *katakana* only. Once they develop familiarity with the *katakana* syllabary, *hiragana* are introduced. Third, *furigana*, for which *hiragana* are used in most textbooks observed in this chapter, can be written in *katakana* instead. And all onomatopoeia would also be written in *katakana*. Moreover, a *kanji* list can provide *on*-readings in *katakana* and *kun*-readings in *hiragana*, and this representation is already adopted by two textbooks. These changes can help learners to continue to familiarize with *katakana* script, since they will be seeing *katakana* script much more frequently than they do today. Lastly, the ratio of *katakana* words can be increased to 15-18% in comparison with *kanji* and *hiragana* words, closer to the appropriate ratio given in Table 5.8, where popular magazines use 15% *katakana* words and TV commercials use about 18% *katakana* words. With these measures, learners of Japanese may begin to realize that *katakana* words are as essential in Japanese writings as *kanji* and *hiragana* words. It is of

course important to continue to teach the Japanese written language by focusing on *kanji* and *hiragana*, but it is equally important to teach *katakana* carefully since this particular script is an essential factor reading contemporary Japanese writings.

Chapter 6
Factors That Make *Katakana* Words Difficult for Foreign Learners of Japanese, and Those That Make *Katakana* Loanwords Difficult for Native Speakers of Japanese

6.1. Introduction

Katakana words, especially *gairaigo*, are difficult for foreign learners of Japanese. Why are these words difficult for them? This chapter will discuss four major factors that can be considered to cause their difficulty with *katakana* words. First, their difficulty will be examined from the point of view of psycholinguistics where the processes of word recognition by human readers have been investigated. Second, learners' difficulty will be examined for orthographic issues that can be associated with script policy and word form variations. Third, learners' difficulty will be analyzed from the very characteristics of loanwords themselves, characteristics which can be categorized into several groups. Fourth, their difficulty will be examined as possibly arising from phonological difference, as suggested by survey results derived from foreign students learning Japanese (see Takeda, 2002; Tsubone, Suzuki, Sakamoto & Kamiya, 2001).

Not only foreign learners of Japanese but also native speakers of Japanese sometimes express difficulty with *katakana* loanwords, as described in the introductory chapter. The reasons for their difficulty will be discussed in the light of characteristics of *katakana* script and aspects of the current script policy employed by the government in its educational practices.

After examining the differential role of these several perspectives on processing *katakana* words by both groups, the last section of the chapter concludes by discussing potential solutions which might reduce difficulty with *katakana* words.

6.2. The Importance of *Katakana* Script Familiarity and Word Frequency for *Katakana* Word Recognition

There are two major script types, logograms and phonograms, that are used as the foundational units in the orthography in the languages of the world. Logograms are considered to be processed visuo-spatially in the process of word recognition, while phonograms are thought to be processed phonologically. Many researchers are interested in observing the mechanisms involved in Japanese word recognition because it uses both script types, *kanji* as logograms and *kana* as phonograms, and much work has focused on the issue of how Japanese readers differentially access the mental lexicon to recognize words written in each script type.

Some researchers focus on the effect of script familiarity and word frequency in order to investigate the process of lexical access by each script type. For example, Besner and Hildebrandt (1987) found that words normally written in *katakana* were named faster than both non-words written in *katakana* and unfamiliar words written in *katakana* (these words are unfamiliar because they are normally written in *kanji*). Thus, they speculate that words normally written in *katakana* can have access to the mental lexicon without phonological decoding. Tanaka and Konishi (1990) found that reaction times for low-frequency *katakana* words were longer than those for high-frequency *katakana* words, and that reaction times increased as word length increased only in the case of low-frequency *katakana* words. Thus, they concluded that low-frequency *katakana* words were processed through phonological decoding whereas high-frequency words involved direct lexical access without phonological decoding. Tamaoka, Hatsuzuka, Kess, and Bogdan (1998) found that low-frequency loanwords written in *katakana* were processed faster than low-frequency loanwords written in *hiragana*. Loanwords are conventionally

written in *katakana* and thus familiar for the Japanese reader; in contrast, loanwords that would be written in *hiragana* are unconventional and thus unfamiliar. The results of Tamaoka et al. indicate that a word written in a conventional and familiar script is processed faster than a word in an unconventional and unfamiliar script, especially in low-frequency words.

These research results suggest that script familiarity and word frequency for a given word are highly relevant to word recognition, as Kess and Miyamoto (1999) have noted. Words which are written in a familiar script, that is, a script typically associated with the written manifestation of that particular word, and which have high-frequency can be processed faster for word recognition than those which are written in unfamiliar script and which have low-frequency. Therefore, this chapter considers script familiarity and word frequency as important factors in written word recognition, and the difficulty of foreign learners with *katakana* words can certainly be partially explained through these factors.

It can be assumed that foreign learners of Japanese have difficulty with *katakana* words because they do not possess sufficient exposure to *katakana* words in order to establish script familiarity for those words in the process of word recognition. In other words, a given *katakana* word must appear frequently in a text in order for a reader to be able to establish script familiarity. Given this assumption, this section examines how frequently the learners are exposed to *katakana* words in educational materials employed in current Japanese language education programs. In particular, word frequency for *katakana* loanwords in textbooks will be brought to bear in the discussion below. There are five textbooks for lower beginners in Japanese language programs at Canadian

institutions of higher learning, as was noted in Chapter 5. They are *Youkoso* ようこそ *1*, *Nakama* なかま *1*, *Genki* げんき *1*, *Interactive Japanese 1*, and *Spoken Japanese through Video Skits 1*. Among these textbooks, *Genki* げんき *1* is the most commonly used in Canadian post-secondary institutions: for example, five institutions[24] use *Genki* げんき *1*, while four institutions[25] use *Nakama* なかま *1* and three institutions[26] use *Youkoso* ようこそ *1*.

In order to determine *katakana* loanword frequency in *Genki* げんき *1*, a list of *katakana* loanword frequency needs to be formulated. Accordingly, all of the *katakana* loanwords from Lesson 1 to Lesson 12 in *Genki* げんき *1* were collected, as listed in Appendix D. From this list, it was found that a total of 1,069 *katakana* loanwords appeared, but that only 230 different loanwords were used. Based on these results, *katakana* loanword frequency can be calculated, as demonstrated in Table 6.1 below.

[24] The five institutions are Carleton University, Camosun College, Malaspina University-College, University of British Columbia, and University of Victoria.
[25] The four institutions are Memorial University of Newfoundland, University of Regina, University of Alberta, and University College of the Fraser Valley.
[26] The three institutions are Brock University, Kwantlen University College, and Okanagan University College.

Table 6.1. Katakana* Loanword Frequency in *Genki 1

	The number of words	Word frequency
1 time	109	47.39%
2 times	30	13.04%
3 times	25	10.87%
4 times	16	6.96%
5 times	13	5.65%
6 times	5	2.17%
7 times	7	3.04%
8 times	3	1.3%
9 times	2	0.87%
10 times	4	1.74%
11 times	2	0.87%
12 times	1	0.43%
13 times	1	0.43%
15 times	1	0.43%
16 times	1	0.43%
17 times	2	0.87%
20 times	1	0.43%
22 times	1	0.43%
30 times	2	0.87%
41 times	1	0.43%
48 times	1	0.43%
59 times	1	0.43%
173 times	1	0.43%

Note. Word frequency in each row is calculated by the following formula: NUM/230.

As shown in this table, 47.39% of the words in this textbook only appeared once and 13.04% of the words appeared twice. These numbers indicate that more than half, or about 60%, of *katakana* loanwords in this textbook only appeared once or twice. Furthermore, about 78% of *katakana* loanwords in this textbook were used less than 5 times. These numbers suggest that the majority of the words used in this textbook possess low-frequency, so learners of Japanese are not supported in developing script familiarity for these low-frequency words. The results of this word frequency examination also demonstrate that textbook authors do not seem to be concerned about word frequency, since the majority of words appeared less than 5 times.

These findings indicate that the current textbooks do not provide the learners with sufficient exposure to develop script familiarity for given *katakana* words. Because the learners do not have enough exposure to a wide array of *katakana* words, they later have difficulty with *katakana* words in the process of word recognition. Unfortunately, there is no study to demonstrate how frequently a word needs to have appeared in a text in order to develop learners' script familiarity to a sufficient level. This is a topic which needs to be investigated in the near future, since the results of such a study can be used for improving Japanese language education for foreign learners.

6.3. Orthographic Issues in Japanese Writings

The deployment of the four types of script, *kanji*, *hiragana*, *katakana* and *roomaji*, is not absolute, since Japanese shows script variation in writing words in its orthographic system. A word can be written in any one of the script types: 'book' can be written in four ways, 本 (*kanji*), ほん (*hiragana*), ホン (*katakana*), and *hon* (*roomaji*). This phenomenon is called '*yure*' ゆれ in Japanese, and this makes a novel instance of *katakana* troublesome because at first glance it is difficult for foreign learners of Japanese to immediately know whether the word written in *katakana* is a foreign loanword or a Japanese word written in an unconventional style.

Why do Japanese people use '*yure*' ゆれ in their writing? There are two reasons that can account for the use of this script variation in Japanese writings. First, such variation can be used because a writer wishes to convey different nuances for a word by using different script types. For example, one poem written by Saisei Muroo (1889-1962) clearly shows such intentional usage: *miyako* 'a capital city' is written in both *kanji* and

hiragana. The word *miyako* in *kanji* (都) is used for providing a sense of rationality with the word; while *miyako* in *hiragana* (みやこ) is used for providing writers' emotional involvement with the word (Inoue, 1995).

Second, such variation can be used because it can evoke psychological reactions from the audience, as is illustrated by recent psycholinguistic research. Yokoyama (1991) studied the effect of orthographic familiarity on free recall of loanwords written in *katakana* (conventional) and in *hiragana* (unconventional). He found that *hiragana* items are recalled better than *katakana* items, and explained the difference in recall by using the effect of cognitive effort on recall as an explanation. When loanwords are written in *hiragana*, the familiarity of the words becomes low so that readers expend more cognitive effort to read the words in *hiragana* than to read in *katakana*. As a result of this cognitive effort, the recall performance for loanwords written in *hiragana* becomes better than in *katakana*.

Since '*yure*' ゆれ can evoke such psychological effects, it has been very popular for use in advertisements. The results of the analysis carried out for this dissertation, as outlined in Chapter 4, provide evidence for this, and are repeated in Table 6.2 below.

Table 6.2. **Ratio of Words Written in *Katakana* Script**

		Newspapers	**TV commercials**	**Magazines**
1	***Gairaigo***	95.99%	80.74%	91.06%
2	***Kango* (Sino-Japanese words)**	0.34%	2.96%	0.96%
3	**Mixed word**	0	2.96%	0.08%
4	**Onomatopoeia**	0	2.22%	1.68%
5	**Proper nouns**	0.67%	0	0.64%
6	***Wago* (native Japanese words)**	3.02%	11.11%	5.57%

Of all the three types of media in Table 6.2, the percentages of *kango* and *wago*, both of which are written in *katakana*, are highest in TV commercials. One of the TV

commercials, Cosmo Petroleum, provides an example of '*yure*' ゆれ, where the *wago* 心 *kokoro* 'heart', generally written in *kanji*, is presented in *katakana* as ココロ. This '*yure*' is used in this commercial because creators of this commercial wish to evoke some psychological effect from their audience, probably attention-getting in this case. That is, by using a word written in an unconventional style, it is expected that the audience make more cognitive effort so that the word stands out and is thus noticed first, and then the advertisers hope that this word is also recalled better. In other words, the word is emphasized by using an unconventional style.

Due to the writers' artistic intention and the creators' attempt to evoke such psychological effects, unconventional *katakana* words are produced commonly in Japanese writings; that is, words generally written in *kanji* or *hiragana* are sometimes written in *katakana*. The data from the National Language Research Institute/NLRI confirm that this phenomenon is commonly used in Japanese writings. They examined '*yure*' ゆれ in headlines of newspapers, and found that 4,916 words out of 34,477 words (about 14%) are written by using this type of script variation (NLRI, 1983, cited in Inoue 1995). The research results reported in this dissertation, as illustrated in Chapter 4, also demonstrate the existence of such variation in Japanese writings.

However, from the observation of textbooks discussed in Chapter 5, it was revealed that the majority of textbooks do not introduce *katakana* use for words written in an unconventional style, so that language instructors may not mention this usage of *katakana* to the learners. Since learners of Japanese are typically taught that *katakana* words are loanwords from Western languages, this variation makes for some confusion. They may first assume that unconventional *katakana* words may also be loanwords, and

attempt to find the meaning of these words in a dictionary or to use transliteration rules if they know them.

6.3.1. *Katakana* Word Form Variations

In addition to the script variation above, there is some variation in how to write *katakana* loanwords, and Table 6.3 shows some selected examples of this variation.

Table 6.3. **Variations in *Katakana* Words**

English	Variation (1): Old Representation	Variation (2): New Representation
film	フイルム *fuirumu*	フィルム *firumu*
whiskey	ウイスキー *uisukii*	ウィスキー *wiskii*
angel	エンゼル *enzeru*	エンジェル *enjeru*
ink	インキ *inki*	インク *inku*
computer	コンピューター *konpyuutaa*	コンピュータ＿ *konpyuuta*
quartet	カルテット *karutetto*	クァルテット *kwarutetto*
saxhorn	サキソホン *sakisohon*	サクソホン *sakusohon*
violin	バイオリン *baiorin*	ヴァイオリン *baiorin*
Beethoven	ベートーベン *beetooben*	ベートーヴェン(beetooven)
sandwich	サンドイッチ *sandoicchi*	サンドウィッチ *sandowicchi*
fuse	ヒューズ *hyuuzu*	フューズ *fuuzu*
Tunisia	チュニジア *cyunijia*	テュニジア *tyunijia*
telephone	テレホン *terehon*	テレフォン *terefon*
romantic	ロマンチック *romanchikku*	ロマンティック *romantikku*
building	ビルジング *birujingu*	ビルディング *birudingu*

Note. See more examples in the publications by the Agency for Cultural Affairs/ACA, 1997 and 1998.

In such written form variations, there is a one-to-two correspondence from an original language to Japanese instead of the expected one-to-one correspondence. That is, one original word is realized in two different forms in Japanese. For example, the English word 'film' is transliterated as both フイルム *fuirumu* and フィルム *firumu*. These written forms are created from different phonological rules: フイルム *fuirumu* is created by the /u/ insertion after /f/, and フィルム *firumu* is created by no insertion of a vowel after /f/. With regard to the meaning of words, all of the words in Table 6.3 retain the

meaning of the originals. The two variational forms share the same meaning, but usage of these forms corresponds to personal preference or to in-house rules of publishing companies for publications. Either variation form is appropriate to use in terms of being approved usage (ACA, 1997).

These variations in form have resulted from the expansion of the Japanese sound inventory as the result of re-ordering because of the influx of borrowings. As internationalization progresses, the Japanese have had increased opportunities to hear foreign words; as a result, the Japanese sound inventory has been somewhat expanded or re-ordered in terms of phonotactics. Based on the *Asahi* newspaper corpus produced by Amano and Kondou (2000), Tamaoka and Makioka (2004) demonstrate evidence for the sound inventory expansion based on the high-frequency usage of both /f +V/ sounds and /ti/. Such sounds did not previously exist in the inventory, and now sounds including フィ(fi), ファ(fa), and ティ(ti) are accepted in Japanese phonology. These new sounds are used frequently because of an orthographic tendency to attempt to write loanwords as close to the sounds of the originals as possible (ACA, 1997).

The tendency to transcribe *katakana* loanwords based on the pronunciation of original words had already been recognized soon after the National Language Council first issued a recommended list for transcribing loanwords in *katakana* (*Gairaigo no Hyouki ni tsuite* 外来語の表記について) in 1954, as noted in Chapter 2. Even though this list was issued, the general public wrote many words in *katakana* symbols which did not appear on the list. *Katakana* transcriptions in the 1954 list did not satisfy the demands of those people who wished to transcribe *katakana* loanwords based on the pronunciation of the original words. Responding to this demand, in 1991 a new list of transliteration

protocols, the *Gairaigo no Hyouki* 外来語の表記 'the way to transcribe loanwords in *katakana'*, was officially issued, and in this set of protocols 33 new sounds (such as ヴ 'v', シェ 'she' and ジェ 'je') were added (ACA, 1997).

As a result of the acceptance of these new sounds by the Japanese government, a Japanese writer can use either variation format to represent a loanword. One who wants to write a loanword as close to its original sounds as possible can use the new sounds in the Japanese sound inventory, while one who wishes to write loanwords in the old-fashioned way can continue to do so. In Table 6.3, words in variation type (1) are written in the old-fashioned way, while those in variation type (2) are written in the new way. One thus notes that variational forms in some *katakana* words are caused by the script reform that the government has initiated.

The acceptance of these new sounds by the government brought satisfaction to people who wish to transcribe *katakana* loanwords based on the pronunciation of original words. However, one side effect of this acceptance is that *katakana* loanwords are somewhat more complicated for foreign learners of Japanese, since the phenomenon of a one-to-two correspondence between original words and Japanese written forms was created. This mismatch is not desirable, because the form familiarity of *katakana* loanwords that have variation becomes lower than that of other *katakana* words which do not have variations. For example, 'tomato' is always written as トマト *tomato* in *katakana*. In contrast, 'sandwich' is written as either サンドイッチ *sandoicchi* or サンドウィッチ *sandowicchi* in *katakana*. Thus, readers always see トマト *tomato* as a written form for 'tomato' in a text. However, they see either サンドイッチ *sandoicchi* or

サンドウィッチ *sandowicchi* as a written form for 'sandwich' in a text. Since learners may develop lower form familiarity with *katakana* words having variational written forms than *katakana* words having non-variational written forms, the words with variations can be regarded as more unpredictable than the words without variations in terms of the learners' word recognition. These variations pose learners of Japanese with additional, if minor, processing difficulties in recognizing this subset of *katakana* loanwords.

6.4. Characteristics of *Katakana* Loanwords

All loanwords from foreign languages other than Chinese are written in *katakana*, and they are used in six different conditions, as noted by Ishiwata (2001). In the first condition, loanwords are used to express new ideas and objects introduced from other cultures, and as such, fulfill the basic function of loanwords in all languages. The second condition is that loanwords are used to represent an expression which already exists in Japanese. Although there is an equivalent expression in Japanese, speakers intentionally use a loanword to express a different nuance of the word. For example, 宿屋 *yadoya* 'inn' is a native Japanese word used to represent a traditional inn, while ホテル *hoteru* 'hotel' is a loanword from English used to represent a Western-style hotel (Shibatani, 1990). Third, professionals in various areas such as computer science and chemistry often employ a special jargon, which invariably contains *katakana* loanwords. This jargon may be spread into the entire society through the mass media fulfilling its role of providing new information to the general population of listeners and readers. As a result, such jargon may come to be used by average people in society. For example, ウレタン *uretan*

'urethane' is a name of a chemical compound used for finishing wood, and today many people know what 'urethane' is, because this word has frequently appeared in the mass media (see Ishiwata, 2001). Another example can be found in various words coming from the area of computer science which are now used frequently by many people today. For instance, anyone who uses computers on the internet knows what ダウンロード *daunroodo* 'download' means and uses this word when talking about computers. Fourth, *katakana* loanwords can be intentionally used to convey the international atmosphere of an event by the media. A writer of an article may choose to use the English word 'delegation' instead of the Japanese expression 選手団 *senshudan*, and this can be taken to indicate that the delegation attended an international competition. Fifth, *katakana* loanwords are used as euphemisms. Expressions related to body and sex are sometimes expressed by *katakana* loanwords, since native Japanese words are perceived as too direct by the Japanese (see Rebuck, 2002). For example, ヘア *hea* 'hair' is sometimes used to refer to 'pubic hair', instead of the Japanese equivalent expression 陰毛 *inmou*. Lastly, *katakana* loanwords are used because some words from English are just simpler than existing Japanese words. For example, in the field of computer science the English word 'IC', standing for 'Integrated Circuit', is used more frequently than its Japanese equivalent expression, 集積回路 *shuuseki-kairo*, and 'LSI', standing for 'Large Scale Integration', is also used more frequently than 大規模集積回路 *daikibo-shuuseki-kairo*. Very simply, these English words are shorter and simpler than the corresponding Japanese *kanji* compounds (Ishiwata, 2001). These six conditions give an idea of where and why *katakana* loanwords are used in Japanese writings, and learners of Japanese need to know all of these conditions. However, as reported in Chapter 5, textbooks for

foreign learners of Japanese simply teach that *gairaigo* are loanwords from foreign languages other than Chinese, and conditions of *katakana* usage as noted above are not taught to the learners.

Even though the learners may come to know such conditions, they may encounter difficulty in accessing the meaning of such words, due to the following three factors: (1) the words may appear as doublets; (2) there may be a meaning shift from the English originals; and (3) the words may be Japanized English words.

6.4.1. *Katakana* Doublets

Doublets are pairs of words which derive from one English original word but have two different forms and two different meanings in Japanese. Table 6.4. provides some examples of doublets.

Table 6.4. **Doublets in Japanese**

English	Word (1) with Meaning	Word (2) with Meaning
strike	ストライキ *sutoraiki* 'a labor strike'	ストライク *sutoraiku* 'strike used in baseball games'
glass	ガラス *garasu* 'a glass for a window'	グラス *gurasu* 'a glass for drinking alcohol'
machine	ミシン *mishin* 'a sewing machine'	マシン *mashin* 'machines other than sewing machines'
cup	コップ *koppu* 'a glass for drinking non-alcohol beverages'	カップ *kappu* 'a cup'
meter	メートル *meetoru* 'a meter (measurement for length)'	メーター *meetaa* 'a meter (equipment)'
iron	アイロン *airon* 'an iron (equipment to iron)'	アイアン *aian* 'a type of a golf club'
bass	バス *basu* 'bass (voice)'	ベース *beesu* 'bass (musical instrument)'

Note. These examples are taken from Tamura (1987) and Tsubaki (1987).

Doublets are generated when a word from English is processed through different transliteration rules for rendering *katakana* loanwords into Japanese. Then, the created loanword is attached to a different meaning even though the source is the same. For

example, one of the examples of doublets in Table 6.4, the English word ‘strike’ takes the following double history. This word ‘strike’ is transliterated as ストライキ *sutoraiki* or as ストライク *sutoraiku* in Japanese. These two words are generated through different phonological rules: ストライキ *sutoraiki* was created by the /i/ insertion at the end of the closed syllable, and ストライク *sutoraiku* was created by the /u/ insertion at the end of the closed syllable. Then, ストライキ *sutoraiki* is associated with the meaning of ‘a labor strike’, while ストライク *sutoraiku* is associated with the meaning of ‘strike used in baseball games’. Therefore, the correspondence between English and Japanese doublets becomes a one-to-two relationship, with one English word rendered as two words in Japanese.

Learners of Japanese need to know that some loanwords are doublets whose correspondence do not follow a one-to-one rendition from Japanese to English, but a two-to-one rendition from Japanese to English (as in ストライキ *sutoraiki* and ストライク *sutoraiku* that corresponds to the English word ‘strike’). There are no rules for finding which loanwords are doublets, and the learners simply have to memorize these words.

6.4.2. *Katakana* Loanwords Whose Meaning Has Shifted From the Originals

Some borrowed words from English have shifted their meanings after their adoption into Japanese. Examples of these words are illustrated in the table below.

Table 6.5. **Loanwords Whose Meaning Has Shifted From Originals**

English	*Katakana* word	Meaning in Japanese
trump	トランプ *toranpu*	playing cards
handy	ハンディー *handii*	easy to use due to the smallness
Viking	バイキング *baikingu*	buffet style eating
mansion	マンション *manshon*	larger apartments, condominium
stove	ストーブ *sutoobu*	heater for a room
boss	ボス*bosu*	the powerful head of gangsters or politicians
feminist	フェミニスト *feminisuto*	men who soft-hearted toward women
stylist	スタイリスト *sutairisuto*	people who give fashion advice

Note. These examples are taken from the ACA (1997) and from Shibatani (199).

For example, Japanese borrows the English word 'stove', which is written as ストーブ *sutoobu* in *katakana*. Although this word is from English, it does not retain the original English meaning, but rather it was associated with a different meaning, that is, 'a heater for a room' in Japanese. All of the other words in Table 6.5 demonstrate this phenomenon. Therefore, even though learners of Japanese may have mastered transliteration rules and may have successfully accessed the original English words, they may not capture the right meaning of the Japanese loanwords from their English originals, because the loanwords do not retain their English original meaning.

6.4.3. Japanized English Words

Japanized English words written in *katakana* should also be considered as posing difficulty for learners of Japanese, since these words have essentially been created by the Japanese building on an English vocabulary base. Some examples of Japanized English words appear below in Table 6.6.

Table 6.6. **Japanized English Words**

Japanized English words	**Japanized English words written in *katakana***	**Equivalent meaning in English**
number plate	ナンバー プレート *nambaa pureeto*	license plate
handle	ハンドル *handoru*	steering wheel
winker	ウィンカー *winkaa*	turn signal
nighter	ナイター *naitaa*	night game
order-made	オーダーメイド *oodaa-meido*	tailor-made
guardman	ガードマン *gaadoman*	security guard
key holder	キーホルダー *kiihorudaa*	key chain
morning call	モーニング コール *mooningu kooru*	wake-up call
silver seat	シルバーシート *shirubaa shiito*	priority seats for the elderly and disabled
pocket bell	ポケットベル *poketto beru*	pager
mixer	ミキサー *mikisaa*	blender
recycle shop	リサイクルショップ *resaikuru shoppu*	second-hand store
print	プリント *purinto*	handout
cunning	カンニング *kanningu*	cheating
paper test	ペーパーテスト *peepaatesuto*	written test
freeter	フリーター *furiitaa*	job-hopping part-timer

Note. More examples are demonstrated in Koudansha International (2000) and Taga (1991).

For example, in respect to automobiles ナンバー プレート *nanbaa pureeto* ‘number plate’ in Japanese refers to ‘license plate’ in English, and ハンドル *handoru* ‘handle’ in Japanese refers to ‘steering wheel’ in English. There are a large number of Japanized English words in Japanese lexicon, and such words simply do not make sense in English to native English speakers.

Indeed, Japanized English words are difficult for native English speakers to understand, and this was demonstrated by a recent study conducted by Shibasaki, Tamaoka, and Takatori (in press). The researchers examined 36 American university students studying Japanese versus 36 American university students who have never studied Japanese, in order to check their understanding of Japanized English words. They

found that the students who were studying Japanese performed better than those who have never studied Japanese. They accounted for this result from the knowledge of Japanese culture and society that students possess. That is, the students with Japanese knowledge recognized Japanized English words better than the students without Japanese knowledge, because they possessed a better understanding of Japanese culture and society. Although the students with Japanese knowledge performed better in the research, it was demonstrated that they also have difficulty in comprehending Japanized English words. Only one word, マイペース *mai peesu* 'my pace', out of a total of 30 selected words was correctly answered as to its meaning by all of the students with Japanese knowledge. That is, 100% of the students answered the meaning of this word correctly. The percentage of the correct answer for other 29 words varies. For example, 90% of the students correctly answered the meaning of ゲームセンター *geemu sentaa* ' literary, game centre, which means arcade in English', but only 6.1% of the students could correctly answer the meaning of ドクターストップ *dokutaa sutoppu* 'literary, doctor stop, which describes the condition of an athlete who cannot play a game or participate in a race because a doctor does not give permission to do so due to the medical reason'.

Given these research results, Shibasaki, Tamaoka, and Takatori (in press) reported the following observations. First, the students can guess the meaning of Japanized English words when the words are similar to English: オープンカー *oopun kaa* 'open car' in Japanese is similar to a phrase such as 'open-top-car' in English, even though this is not a recognized idiom in English. Second, the students can also guess the meaning of such words when the words are ordered in the English way. For example, ゲームセンター *geemu sentaa* 'game centre' in Japanese follows the English word order for modifying

the head noun: the head of this compound is placed after the modifying word as in 'beautiful flowers'. Thus, the students can grasp the meaning of this Japanized English compounding word. However, they cannot guess the meaning of the Japanized words when grammar of Japanized English words does not follow English grammar. For example, they cannot understand what アフターサービス *afutaa saabisu* 'after service' means because grammar of the Japanized English words does not coincide with that of English. In Japanese, アフターサービス *afutaa saabisu* 'after service' refers to the service such as free repair that you receive after you purchase something, so that the head of this compound is 'service'. In English, however, 'after service' does not mean service that you receive after you purchase something, because the head of 'after service' is 'after'. The students also cannot guess the meaning of Japanized English compounding words when the meaning of each word in the compound does not coincide with the meaning of English words. For example, 'service' in Japanese is generally used to express the meaning of 'free' and 'discount', but 'service' in English is not generally used to express these meanings. Moreover, they cannot guess the meaning of Japanized English compounds when such words are associated with the particular meaning in Japanese. For instance, ツーショット *tsuu shotto* 'two shot' in Japanese means that two people as a couple are in a photo or that two people are there as a couple. 'Two shot' in English does not have these meanings. Given these remarks, we can see that there are various factors that have to be recognized by foreign learners of Japanese in order to process and comprehend the meaning of Japanized English words.

However, many Japanese consider these *katakana* words as having originated in English, and therefore foreign learners of Japanese whose L1 is English should easily

understand such words. Thus, Japanese language teachers do not think that it is necessary to explain the meanings of these *katakana* words to their students (Kess & Miyamoto, 1999; Prem, 1991; Tomita, 1991). As a result, students cannot access the meaning of these *katakana* words even though they can transliterate these to English successfully.

Meanwhile, both Japanized English words and loanwords whose meaning is shifted from their source originals are problematic for native speakers of Japanese (Taga, 1991), because native speakers also consider these words as being English. When they speak English, they use these words as if they were legitimate English words, with the result that their English becomes stilted and opaque for native speakers of English, and thus communication with native English speakers suffers (see National Language Council, 2000).

6.5. Phonological Differences Between Japanese and English

There is yet another reason why *katakana* loanwords are difficult for learners of Japanese, which is provided by students who participated in two surveys conducted by Tsubone, Suzuki, Sakamoto, and Kamiya (2001) and by Takeda (2002). In their surveys, the students' responses indicated that *katakana* loanwords from English are difficult because the phonological system of Japanese is not identical to that of English. Accordingly, phonological differences between Japanese and English are examined here to see what the ramifications of these students' responses imply.

Katakana words are difficult because they do not retain their original English sounds, but they are reshaped as words with new sounds (Japanese sounds) when presented in *katakana*. *Katakana* loanwords are formed through phonological rules that

make foreign sounds fit within the Japanese sound structure, since the phonological system of Japanese is not identical to that of the original language. For example, some consonants are not shared between English and Japanese, as demonstrated in Table 6.7.

Table 6.7. **Japanese and English Consonant Phonemes**

JAPA	p	b	t	d	k	g	ɸ		(v)			s	z	ʃ		tʃ	ʤ	ts	h	m	n	ŋ		r	w	j
ENG	p	b	t	d	k	g		f	v	θ	ð	s	z	ʃ	ʒ	tʃ	ʤ		h	m	n	ŋ	l	r	w	j

Note. English consonants are taken from Rollings (2004).

Six consonants in English / f v θ ð ʒ l/ do not appear in Japanese. When Japanese borrows English words which contain non-existent consonant phonemes, Japanese substitutes for such phonemes by using the closest Japanese phonemes in terms of manner of articulation and place of articulation, as illustrated in the table below.

Table 6.8. **Substitution of English Consonant Phonemes in Japanese**

JAPA	ɸ	b/(v)	s	z	ʤ	r
ENG	f	v	θ	ð	ʒ	l

As the substitution of English /f/, Japanese chooses /ɸ/ because both English /f/ and Japanese /ɸ/ are voiceless consonants possessing a labial feature. Japanese /b/ is chosen to substitute for English /v/, because both are voiced consonants possessing a labial feature. English /θ/ is substituted for by Japanese /s/, both of which are voiceless fricatives. Japanese /z/ is chosen to substitute for English /ð/ since both are voiced fricatives. English /ʒ/ is substituted for by Japanese /ʤ/, both of which are voiced palato-alveolars. Lastly, English /l/ is substituted for by Japanese /r/, both of which are approximants.

With regard to vowels, Japanese has only five vowels while English has thirteen basic vowels. The following illustrates the vowel inventories of Japanese and North American English.

***Table 6.9*. Vowels in Japanese and English**

JAPA		a	i	ɯ	ɛ	o										
ENG	æ	a			ɛ		ɪ	ɔ	ʌ	ʊ	aɪ	ai	aʊ	ɔɪ	eɪ	ou

JAPA		a:		i:	ɯ:		ɛ:		o:	
ENG	ə	a:	æ:	i:		u:		e:		ɔ:

Note. English vowels are taken from Venezky (1999).

When Japanese borrows English words which contain non-existing vowels in Japanese, it employs substitution of vowels by simply using its five vowels. The following table shows the substitution of English vowels in Japanese.

***Table 6.10*. Substitution of English Vowel Phonemes in Japanese**

JAPA	a	i/i:	ɯ	o/a	a	ai	ai	aɯ	oi	ɛi	o/oɯ	a/ɛ/o/i	a:	ɯ:	ɛ:	o:
ENG	æ	ɪ	ʊ	ɔ	ʌ	aɪ	ai	aʊ	ɔɪ	eɪ	ou	ə	æ:	u:	e:	ɔ:/ou

Note. The vowel correspondences between English and Japanese are cited from Quackenbush, Fukada and Kobayashi (1993).

For example, English /ɪ/ is substituted for by Japanese /i/ because both are high front vowels. English /ɔ/ is substituted for by Japanese /o/ or /a/ because all three are non-high and non-front vowels. English /ʊ/ is substituted for by Japanese /ɯ/, since both are high back vowels. These indicate that Japanese employs the basic rule that a Japanese vowel possessing either similar height or front/backness to an English vowel becomes a substitute for the English vowel.

The syllable structure of Japanese is also different from English. The basic Japanese syllable structure is CV, while English is more characterized by CVC.

Furthermore, Japanese does not allow complex consonant clusters in onset and in coda, whereas English allows such clusters both in onset and in coda. In order to adopt English words into Japanese, the strategy 'insertion of a vowel' is employed to compensate for these structural differences. That is, all syllable structures in English are reshaped as CV sequences in Japanese. Thus, CCCVCC (1 syllable) in English is realized CVCVCVCVCV (5 syllables) in Japanese. For example, *strict* in English is realized *sutorikuto* in Japanese.

There are two conditions where vowel insertion is enacted. One condition is the vowel insertion at the end of a closed syllable 'CVC', and the other is the vowel insertion in consonant clusters (e.g., CCV, CVCC, etc). Japanese only allows certain vowels to be inserted at the end of the closed syllable. An /o/ is inserted at the end of the syllable, after /t/, /d/, or /h/. An /i/ is sometimes inserted at the end of the syllable, only after /tʃ/, /ʤ/, /ʃ/, or /k/. But an /u/, instead of an /i/, can be inserted in these conditions. An /u/ is inserted at the end of the syllable after all other consonants (Quackenbush, Fukada, & Kobayashi, 1993).

With regard to the vowel insertion in consonant clusters, Quackenbush, Fukada, and Kobayashi (1993) found that such insertions are also enacted with only certain vowels. An /o/ is inserted between two consonants of the /tC/, /dC/, and /hC/ combinations. Accordingly, such consonant clusters become /toC/, /doC/, or /hoC/ in Japanese, respectively. An /u/ is inserted between two consonants in other environments, so that, for example, /kC/ and /sC/ become /kuC/ and /suC/ in Japanese, respectively. The vowel insertion rules under two conditions are restated in Table 6.11.

Table 6.11. **Vowel Insertion Rules**

		English → Japanese Rules	**Examples**
(1)	/o/ insertion	/t/, /d/ (at the end of a closed syllable) → /to̲/, /do̲/	バット/batto̲/ 'bat' プリント/purinto̲/ 'print' ガイド/gaido̲/ 'guide' スピード/supi:do̲/ 'speed'
(2)	/i/ insertion	/tʃ/, /ʤ/ (at the end of a closed syllable) → /tʃi̲/, /ʤi̲/	マッチ/matʃi̲/ 'match' オレンジ/orenʤi̲/ 'orange'
(3)	/i/ insertion	/ʃ/, (/k/) (at the end of a closed syllable) → /ʃi̲/, (/ki̲/)	ブラシ/buraʃi̲/ 'brush' ケーキ/ke:ki̲/ 'cake'
(4)	/o/ insertion	/dl, dr, dn, dw/ (in a consonant cluster) → /do̲l, do̲r, do̲n, do̲w/	ドリーム/do̲ri:mu/ 'dream' ドワーフ/do̲wa:fu/ 'dwarf' キャンドル/kjando̲ru/ 'candle'
(5)	/o/ insertion	/hw/ (in a consonant cluster) → /ho̲w/	ホワイト/ho̲waito/ 'white'
(6)	/o/ insertion	/tl, tr, tn, tw/ (in a consonant cluster) → /to̲l, to̲r, to̲n, to̲w/	トラスト/to̲rusuto/ 'trust' セトル/seto̲ru/ 'settle' トワイライト/to̲wairaito/ 'twilight'
(7)	/u/ insertion	/C/ (in a consonant cluster and at the end of a closed syllable) → /Cu̲/ /elsewhere	チーズ/chi:zu̲/ 'cheese' クリーム/ku̲ri:mu̲/ 'cream' スマイル/su̲mairu̲/ 'smile'

Note. These rules are taken from Quackenbush, Fukada, and Kobayashi (1993).

Together with the insertion of a vowel, compensatory lengthening generally occurs when the combination of V + /r/ is in an English word. For example, 'skirt [sk$\underline{\text{ə}}$r̲t]' in English becomes 'スカート[suk$\underline{\text{ʌ}}$:to]'*sukaato* in Japanese, and 'manager [mænɪʤ$\underline{\text{ə}}$r̲]' in English becomes 'マネージャー[mane:ʤ$\underline{\text{a:}}$]' maneejaa in Japanese. In these instances, /r/ is deleted and the vowel placed before the deleted /r/ is lengthened. Note that 'shirt [ʃərt]' in English has the V + /r/ combination, but the vowel is not lengthened in its Japanese equivalent word 'シャツ[ɕʌtsɯ]' *shatsu*. There may be some other instances that a vowel is not lengthened even though /r/ placed after the vowel is deleted. This

paper does not investigate reasons why the vowel is not lengthened in these cases, since this issue is beyond the scope of this paper. The reasons why a vowel is not lengthened in such cases need to be examined in the future.

In sum, when Japanese borrows words from English, the following processes are fundamentally involved.

(1) Consonants and vowels in English are modified to fit those in Japanese
(2) Syllable structure of English words is modified to fit that of Japanese

Therefore, for example, ‘strict [strɪkt] in English becomes ‘[sɯtorikɯto] in Japanese, and ‘skirt [skə:rt]’ in English becomes ‘スカート[sɯkʌ:to]’*sukaato* in Japanese. From the phonetic representations of these examples above, it is obvious that English sounds do not correspond to Japanese sounds. Based on the Japanese sounds, loanwords are then written in *katakana*, so that it is hard to link *katakana* loanwords to their originals for foreign learners of Japanese. Needless to say, *katakana* loanwords are not English words anymore for the learners; instead, the loanwords are now Japanese words.

The psycholinguistics discussion nicely explains the learners’ difficulty in linking *katakana* loanwords to English originals. According to Vellutino (1979, cited in Patel 1983), the learners’ difficulty in identifying *katakana* loanwords did not result from their difficulty in discriminating and visualizing to encode *katakana* script but in retrieving words from the storage of the English originals. This phenomenon occurs partially due to their lack of knowledge of phonology of language, as pointed out by Patel (1983). A thorough knowledge of Japanese phonology, coupled with the way in which the Japanese phonological rules interact with phonological reformulation of loanwords, are among the essential factors for matching representations of words in the mental lexicon with the

transcriptions of the orthography (Patel, 1983). Accordingly, when learners of Japanese have such knowledge, they can match English originals in their mental lexicon with their *katakana* counterparts more easily than today. Therefore, it is necessary for the learners to learn Japanese phonology in their Japanese language courses.

6.6. Characteristics of *Katakana* Symbols

This chapter has demonstrated reasons why *katakana* words are difficult for foreign learners of Japanese. However, not only the learners but also native speakers of Japanese express some difficulty with *katakana* loanwords specifically, as noted by the National Language Council (2000). The factor that makes *katakana* loanwords difficult for native Japanese speakers is approached from two perspectives, characteristics of script and recent script policy.

Each *katakana* script symbol does not convey meaning since it simply represents a syllable/mora, while each *kanji* character is an ideogram and carries meaning. Accordingly, when *gairaigo* are translated into Japanese with *kanji*, Japanese readers can often understand the meaning of the words. In contrast, when *gairaigo* are written in *katakana*, they cannot understand the meaning of the words from the characters. For example, when ‘telephone’ is translated as 電話 *denwa*, Japanese people understand the concept of this word from the individual *kanji* characters forming the words as ‘electric talk’. However, when ‘telephone’ is written down in *katakana* as テレフォン *terefon*, they receive no hint as to what this word means although they can read it. Because of this fundamental characteristic of *katakana* script, *katakana* loanwords are difficult for native

Japanese speakers to find their meaning, as pointed out by Kabashima (1981) and Jinnouchi (2003).

A large number of *gairaigo* flooded into Japan after the Meiji Restoration (1867), as numerous new ideas and objects were introduced from the West. Japanese intellectuals translated these ideas and objects into Japanese with *kanji,* creating new *kanji* compounds to convey equivalent meanings to their original Western counterpart words. For instance, 'education' was translated as 教育 *kyouiku* and 'automobile' as 自動車 *jidousha* (Kabashima, 1981). The first *kanji* in 教育 *kyouiku* conveys the meaning of 'teaching' and the second *kanji* carries the meaning of 'raising'; the first *kanji* in 自動車 *jidousha* carries the meaning of 'self', the second *kanji* conveys the meaning of 'moving', and the last *kanji* conveys the meaning of 'wheel/car'. These *kanji* compounds did not exist before the Meiji era (1868-1912), although each *kanji* character was well known as an isolated character.

According to Maruyama and Katou (1998), Meiji intellectuals translated loanwords into new *kanji* compounds because they believed that a common language was necessary for Japan to modernize a state. Before the Meiji period, there was a clear class distinction between the elite (*samurai* and aristocrats) and commoners, and they essentially used different languages. In order to modernize a state, the government assumed that it is necessary to facilitate a communication network which makes it possible to spread newly introduced knowledge and technology from the West to every part of its territory (Twine, 1991). This thought created conditions which spoke to the necessity of a common/standard language. As one of the creative processes in the

language, loanwords were translated into *kanji* compounds, which made it possible to share the same vocabularies between the elite and commoners.

Similar to the Meiji era, the period after WWII was a time when a considerable number of loanwords from the West, primarily from the United States, were introduced into Japanese. However, numerous loanwords at this time were not translated into Japanese with *kanji*, but simply written down in *katakana*. For example, 'hardware' and 'identity' do not have Japanese translations as *kanji* compounds (National Language Council, 2000); instead, these words are always written down in *katakana*: ハードウェア *haadowea* 'hardware' and アイデンティティ *aidentiti* 'identity'.

Kabashima (1981) and Shibata (1993) provide two reasons why the Japanese did not translate loanwords into *kanji* compounds after WWII. First, their *kanji* knowledge is not as proficient as the Meiji intellectuals. Many of the intellectuals were educated during the Edo period when Neo-Confucianism was adopted as the official ideology and learning of the Chinese classics was encouraged. The Japanese educated after WWII had more difficulty in creating new *kanji* compounds than the Meiji intellectuals, partially because of the Japanese government's script policy promoting the reduction of *kanji* in use, completely in line with the proposed democratization of Japan.

The second reason is that it is difficult to create new *kanji* compounds using *kanji* characters found on the List of *Jouyou Kanji* 常用漢字 (List of *Kanji* for General Use) because the list only contains a total of 1,945 *kanji* symbols. As a result, loanwords are typically written in *katakana* in current Japanese writings, but they do not visually carry the meaning of the words. Accordingly, the Japanese reader often has difficulty in

understanding the meaning of such words, and many *gairaigo* words have become troublesome lexical items for them to process, whether aurally by ear or visually in print.

To some degree, the script policy that the Japanese government has adopted in the post-war years has affected Japanese people's ability to understand *katakana* loanwords. Because the government has reduced the use of *kanji*, loanwords are not translated into *kanji* compounds anymore but are written in *katakana* script. Additionally, Kabashima (1984) provides another possible reason of why loanwords are not translated into *kanji* compounds after WWII. Different from the Meiji period, people can obtain various types of information immediately due to the advancement of technology. This situation does not give enough time for people to translate loanwords into new *kanji* compounds. Consequently, loanwords are presented simply in *katakana*.

In addition to the fact that each *katakana* symbol does not convey meaning, it has several characteristics that can be considered to cause difficulty in processing *katakana* words by native Japanese readers. As pointed out by Kess and Miyamoto (1999), *katakana* have minimalist angular shapes which often overlap in whole or part, and these characteristics make *katakana* more distinctive than *hiragana*, but simultaneously such characteristics generate perceptual confusion for native Japanese readers. Possibly because of these characteristics, "katakana words receive the longest eye fixations, invoke shorter saccades, and invite regressive movements more than even kanji and certainly far more than hiragana" (Kess & Miyamoto, 1999: 205). These findings suggest that native Japanese readers have more difficulty in processing *katakana* script than *kanji* and *hiragana*.

6.7. Discussion

This chapter examined four major factors causing difficulty with *katakana* words for foreign learners of Japanese. First, it was claimed that script familiarity and word frequency are important factors which underlie their difficulty. Foreign learners of Japanese have difficulty with *katakana* words because they cannot familiarize themselves with *katakana* script from the current teaching settings where *katakana* words do not appear as frequently as *kanji* words and *hiragana* words; *katakana* script is simply not used as frequently as *hiragana* script. In this chapter, word frequency for the majority of *katakana* loanwords appearing in the textbook was found to be quite low. As a result, learners do not have enough exposure to these words and cannot establish a sense of script familiarity for the words, and as a result, their facility in rapid word recognition and lexical access suffer.

Second, it was noted that orthographic issues in Japanese writings make *katakana* words difficult to process and comprehend for the learners. *Katakana* loanwords are difficult for them, since some of these words have several written forms because of the ways people transcribe them. This phenomenon was not resolved by issuing the 1991 list of transliteration protocols, the *Gairaigo no Hyouki* 外来語の表記 'the way to transcribe loanwords in *katakana*', but was instead regularized by formal recognition of multiple pathways in transliteration. Due to the presence of several written forms in *katakana* which correspond to one original word, the familiarity of these word forms becomes lower than that of words which do not possess variations in written forms. Thus, the script reform that the government employed has affected the level of the learners' *katakana* recognition ability to some degree.

Moreover, this chapter introduced evidence that *katakana* script is not simply used for writing loanwords from languages other than Chinese, but is also used for writing words as an unconventional writing style for reasons of emphasis, poetic imagery, and so forth. Due to the multiple usage of *katakana* script, learners of Japanese are often confused by *katakana* words, and sometimes even have the impression that *katakana* words are unintelligible.

Third, difficulty in processing and comprehending *katakana* loanwords for the learners of Japanese was associated with the following three groups of *katakana* loanwords: (1) the words may appear as doublets, in which each word of a pair is connected to a different meaning; (2) there may be a meaning shift from the English originals; and (3) the words may be Japanized English words, which are associated with Japanese specific rules and meanings. All of the *katakana* words belonging to these groups demonstrate that the learners cannot directly receive the meaning of these words by simply reading/processing these words. The meaning of words belonging to these groups is not transparent. Consequently, the learners have difficulty in understanding such words.

Lastly, the learners' difficulty with *katakana* loanwords was also partially accounted for by phonological differences between Japanese and English. In particular, it was illustrated that consonants, vowels, and syllable structure in borrowed English words are reshaped in order to fit within the Japanese sound structure, and these reshaped words are then written in *katakana*. Therefore, *katakana* loanwords are difficult for the learners to recognize. Furthermore, from the psycholinguistics aspect, it was assumed that their difficulty with *katakana* loanwords originates in the storage or retrieval of the English

originals but not in the discrimination and visual encoding of *katakana* script. This phenomenon occurs partially due to their lack of knowledge of phonology of language. Accordingly, it is necessary for the learners to learn Japanese phonology.

In addition to foreign learners of Japanese, this chapter also demonstrated that native Japanese speakers may have some difficulty understanding *katakana* loanwords. This was attributed to characteristics of *katakana* symbols themselves and the script policy known as 'the reduction of *kanji* to use' that the Japanese government has employed in the post-war years. This policy has led contemporary Japanese people to possess a lower level of *kanji* knowledge as compared to Meiji intellectuals; modern Japanese may not be as nimble in creating *kanji* compounds as freely as the Meiji intellectuals. Accordingly, loanwords are not translated into *kanji* compounds anymore, making the substituted *katakana* loanwords difficult to understand for the Japanese. In order to increase native speakers' understanding of these loanwords, it would be helpful to employ script policy 'encouragement for translating more and more *katakana* loanwords into *kanji* compounds'. As a matter of fact, such translation activities have been carried out since 2002 by the *Gairaigo Iinkai* (Loanword Committee), established in the NIJL. Their efforts are specifically intended to reduce the number of *katakana* loanwords that average people do not comprehend.

6.7.1. Possible Strategies for Reducing Difficulty With *Katakana* Words for Foreign Learners of Japanese

With regard to the ways to mitigate foreign learners' difficulty with *katakana* words, it is useful to consider the strategies employed in Japanese language education, one of the most efficacious venues for improving learners' Japanese language abilities. This notion is supported by the findings from the textbook analysis illustrated in this

chapter and the previous chapter where it was found that the current textbooks employed are neither designed to develop learners' *katakana* loanword recognition ability to a sufficient level nor to familiarize the learners with *katakana* script. These findings suggest that there is much room for improvement in such textbooks. The following strategies can be employed in Japanese language education and might provide some help to improve foreign learners' *katakana* word recognition ability.

In Japanese language education settings, *katakana* words must be emphasized in Japanese classes, and the time to study *katakana* word issues should be increased, as pointed out by Tomita (1991). Teachers and language program designers need to design a Japanese language program, as well as accompanying textbooks for foreigners, which pay heed to concerns about word frequency for *katakana* words and which include exercises on the development of *katakana* script familiarity. As already discussed in Chapter 5, the design of textbooks is so very important that it is repeated once more for emphasis in the following sentences. First, *katakana* should be taught first in order to develop familiarity with *katakana*. Once they develop familiarity with *katakana*, then *hiragana* can be introduced. Second, *furigana* can also be written in *katakana*. Third, onomatopoetic words can also be written in *katakana*. Fourth, a *kanji* list can provide its *on*-reading in *katakana* and its *kun*-reading in *hiragana*. Fifth, the ratio of *katakana* words can be increased to 15-18% in comparison with *kanji* and *hiragana* words. Sixth, it is absolutely necessary to have a chapter dedicated to teach *katakana* script and issues relevant to *katakana* words in the textbooks where at the very least the following issues have to be included.

First, the chapter dealing with *katakana* issues needs to provide explanations for the following six conditions where *katakana* loanwords are used, as introduced earlier in this chapter.

(1) Loanwords express new ideas and objects introduced from other cultures.
(2) Loanwords are sometimes used to represent an expression which already exists in Japanese.
(3) Professionals in various areas often employ a special jargon which is heavily laden with loanwords, and this jargon may be spread into the entire society.
(4) Loanwords can be intentionally used to convey the international atmosphere of an event by the media.
(5) Loanwords are used as euphemisms.
(6) Loanwords are used because some words from English are just simpler than existing Japanese words.

Second, the following two remarks pointed out by Shibasaki, Tamaoka, and Takatori (in press) need to be taught in the *katakana* chapter.

(1) The grammar of some Japanized English compounding words does not follow English grammar.
(2) The meanings of some Japanized English compounding words do not coincide with the meanings of English words.

Third, the learners need to be taught the orthographic issues that this chapter discussed. In Japanese, a word can be written in any of the four types of script. This type of variation is used in Japanese writings for the purposes of emphasis, poetic imagery, and so forth; this should be introduced as one of the means of artistic expression that writers can employ, since the writers can and do make the context richer by employing such variation. There is another type of variation introduced in this chapter: that is, one English word can be written in several ways in *katakana* due to the way people transcribe them. This type of variation does not arise from artistic reasons, but is simply caused by the deployment of different phonological inventories in order to represent foreign sounds in Japanese. The presence of this type of variation also needs to be taught to the learners.

Fourth, the following *katakana* loanword issues need to be taught to the learners.

(1) *Katakana* loanwords may appear as doublets.
(2) There may be a meaning shift in *katakana* loanwords from the English originals.
(3) *Katakana* words may be Japanized English words.

Chapter 5 has already described how *katakana* script and *katakana* words are treated in textbooks for foreign learners of Japanese, and we found that no single textbook provides for all of these issues raised above.

Lastly, transliteration rules from *katakana* words to original English words need to be included in textbooks where a chapter or two is specifically designated to teach such rules. By using such rules, foreign learners of Japanese can recover the original English words from the *katakana* loanwords and then find the meaning of the words through normal lexical access procedures. As found by a survey conducted by Tsubone et al. (2001), there is a demand from learners of Japanese to learn such rules. While learning such rules, the learners will understand the phonological differences between Japanese and English. It is important to have phonological knowledge of Japanese, since such a knowledge will help them develop their ability to match English originals in their mental lexicon with the *katakana* counterparts, as noted by Patel (1983). Thus, they will develop a better *katakana* word recognition ability than today. Therefore, these rules should be treated as one of the fundamental items in their Japanese training, and the *katakana* word recognition necessary to be taught to foreign learners of Japanese will be now examined in Chapter 7.

Chapter 7
Creating Transliteration Rules From *Katakana* Loanwords to the Original English Words

7.1. Introduction

Chapter 6 exhibited several factors that are considered to cause *katakana* word difficulty for foreign learners of Japanese, and noted the necessity of change in textbooks for them so as to develop their *katakana* word recognition ability to a sufficient level. One of the factors that needs to be included in the new textbooks is transliteration rules from *katakana* loanwords to English originals. As a matter of fact, to date such transliteration rules do not commonly appear in Japanese textbooks and are rarely taught, except in the field of computational linguistics (see Kan & Maciejewski 1996; Knight & Graehl 1998).

This chapter proposes transliteration rules for retrieving the original English words from Japanese loanwords written in *katakana*. The development of such rules is only considered for *katakana* words from English originals, because most of the current loanwords in Japanese originate in English, as confirmed by data from the research project illustrated in Chapter 4. Such transliteration rules must be developed on the basis of the respective phonological and orthographic characteristics of Japanese and English, as well as the lexical access procedures and psycholinguistic mechanisms that language users carry out in order to process words in their mental lexicon. After demonstrating these transliteration rules, the rules are then assembled to retrieve English words in the most efficient manner and are then tested to check whether the assembled rules function properly to retrieve English words.

7.2. Basic Procedures to Develop Transliteration Rules

As discussed in Chapter 6, when Japanese borrows words from English, the following processes are involved.

(3) Consonants and vowels in English are modified to fit those in Japanese
(4) Syllable structure of English words is modified to fit that of Japanese
(5) These reshaped words are written down in *katakana* as loanwords in Japanese

If these processes are implemented from the opposite direction, that is, Japanese to English, it is theoretically possible to recover the original English words from *katakana* loanwords. Based on this fundamental concept, a set of transliteration rules will be developed. More specifically, the basic processes above are ordered sequentially for the most efficient application and then interpreted as the following steps.

(1) Write down the *katakana* loanword in *roomaji*
(2) Find the relationship between the Japanese *katakana* symbols and the Japanese phonemes
(3) Find the appropriate correspondence between the Japanese and English phonemes
(4) Find the appropriate correspondence between the English phonemes and the English spellings

In addition to these basic steps, there are often rules which have to be integrated into this basic progression of steps. Such rules are described along with providing appropriate linguistic correspondences between English and Japanese.

7.2.1. The Relationship Between Japanese *Katakana* and Japanese Phonemes

Loanwords from foreign languages other than Chinese are generally written in *katakana* in Japanese. In 1991, the Japanese government officially approved 135 *katakana* characters as appropriate for use this exercise (Agency for Cultural Affairs/ACA, 1991), and the way to spell these symbols in *roomaji* is demonstrated in Table 7.1. The Japanese corresponding phonemes to each *katakana* symbol are also illustrated in this table.

Table 7.1. Katakana* Symbols With Corresponding *Roomaji

Phonemes	**Equivalent alphabet symbols to phoneme**	***Katakana/Roomaji***
/a/, /i/, /u/, /e/, /o/	Vowels	ア/a イ/i ウ/u エ/e オ/o
/p/ + V	p + V	パ/pa ピ/pi プ/pu ペ/pe ポ/po
/b/ + V	b + V	バ/ba ビ/bi ブ/bu ベ/be ボ/bo
/t/ + V	t + V	タ/ta ティ/ti (ツ/tu) テ/te ト/to
/d/ + V	d + V	ダ/da デ/de ド/do ディ/di
/k/ + V	k + V	カ/ka キ/ki ク/ku ケ/ke コ/ko
/g/ + V	g + V	ガ/ga ギ/gi グ/gu ゲ/ge ゴ/go
/ɸ/ + V	f + V	フ/fu ファ/fa フィ/fi フェ/fe フォ/fo
/v/ (/b/) + V	v + V	ヴァ/va ヴィ/vi ヴ/vu ヴェ/ve ヴォ/vo
/s/ + V	s + V	サ/sa (シ/si) ス/su セ/se ソ/so
/z/ + V	z + V	ザ/za ジ/zi ズ/zu ゼ/ze ゾ/zo
/ʃ/ + V	sh + V (sy + V)	シャ/sha (sya) シュ/syu (syu) ショ/sho (syo) シェ/she (sye) シ/shi
/tʃ/ + V	ch + V (ty +V)	チャ/cha (tya) チュ/chu (tyu) チョ/cho (tyo) チ/chi
/ʤ/ + V		ジャ/zya (ja) ジュ/zyu (ju) ジョ/zyo (jo) ジェ/zye (je)
/ts/ + V	ts + V	ツ/tsu ツァ/tsa ツィ/tsi ツェ/tse ツォ/tso
/h/ + V	h + V	ハ/ha ヒ/hi (フ/hu) ヘ/he ホ/ho
/m/ + V	m + V	マ/ma ミ/mi ム/mu メ/me モ/mo
/n/ + V	n + V	ナ/na ニ/ni ヌ/nu ネ/ne ノ/no
/r/ + V	r + V	ラ/ra リ/ri ル/ru レ/re ロ/ro
/w/ + V	w + V	ワ/wa ウィ/we ウェ/wu ウォ/wo
/j/ + V	y + V	ヤ/ya ユ/yu イェ/ye ヨ/yo
/pj/ + V	py + V	ピャ/pya ピュ/pyu ピョ/pyo
/bj/ + V	by + V	ビャ/bya ビュ/byu ビョ/byo
/tj/ + V	ty + V	テュ/tyu
/dj/ + V	dy + V	デュ/dyu
/kj/ + V	ky + V	キャ/kya キュ/kyu キョ/kyo
/gj/ + V	gy + V	ギャ/gya ギュ/gyu ギョ/gyo
/ɸj/ + V	fy + V	フュ/fyu
/vj/ + V	vy + V	ヴュ/vyu
/hj/ + V	hy + V	ヒャ/hya ヒュ/hyu ヒョ/hyo
/mj/ + V	my + V	ミャmya/ ミュ/my ミョ/myo
/nj/ + V	ny + V	ニャ/nya ニュ/nyu ニョ/nyo
/rj/ + V	ry + V	リャ/rya リュ/ryu リョ/ryo

(table continues)

Table 7.1. (continued)

Phonemes	**Equivalent alphabet symbols to phoneme**	***Katakana/Roomaji***
/kw/ + V	kw + V	クァ/kwa クィ/kwi クェ/kwe クォ/kwo
/gw/ + V	gw + V	グァ/gwa
/tw/ + V	tw + V	トゥ/twu
/dw/ + V	dw + V	ドゥ/dwu
	Special segments	ー/long vowel = /V:/, ッ/C_1 in C_1C_2, ン/n = /n/

Note. 'V' stands for a vowel, and 'C' stands for a consonant. These *katakana* symbols with *roomaji* transcriptions are taken from the Agency for Cultural Affairs (1991).

In Table 7.1, the column for phonemes shows the pronunciation of each *katakana* character in terms of using International Phonetic Alphabet (IPA) symbols. For example, '/p/ + V' in the table means a set of symbols that are pronounced with the combination of /p/ and a vowel such as /pa/ and /pi/. The next column lists the equivalent alphabet symbols to phonemes, and thus indicates the correspondence between IPA and *roomaji*. For instance, /j/ in IPA represents 'y' in *roomaji*. Thus, /ja/ in IPA is written in 'ya' in *roomaji*. The *katakana*/*roomaji* column in Table 7.1 shows *katakana* symbols with *roomaji* transcriptions. For example, カ in *katakana* is equivalent to 'ka' in *roomaji*. In addition to *katakana* characters constructed by a combination of a consonant and a vowel, there are three special segments in the *katakana* orthography. First, a long vowel is indicated by the symbol 'ー' as in カー *kaa* 'car'. The second special segment is used for a geminate. In general, a geminate consonant is phonemically represented by doubling a consonant, as in the /CC/ doublets of /pp/ and /tt/. Two consonants constructing a geminate are linked to two different syllable positions: the first consonant C1 belongs to the first syllable as a coda of the syllable, and the second consonant C2 belongs to the second syllable as an onset of the syllable, as in CVC1.C2V (Hayes, 1989). When a word contains a geminate, the first part of the doubled consonant is represented as the small ッ

as in アップル *appuru* ‘apple’ in *katakana*. There is another special segment in *katakana* orthography. Japanese possesses the syllabic/moraic ‘n’ which does not need to be combined with a vowel as in テン *ten* ‘ten’; this sound is simply written down as ン in *katakana*.

A few points should be noted with regard to the relationship between *katakana* characters and *roomaji* transcriptions. First, /v/ does appear in writing as ヴァ=va, ヴィ=vi, ヴ=vu; however, these characters are still pronounced as /b/ in speech. Second, some characters are written in two ways in *roomaji*: シ=shi/si, ツ=tsu/tu, シャ=sha/sya and so forth. Although these characters exhibit two types of written form in *roomaji*, their pronunciation is identical. For example, シ(shi/si) is always pronounced as [ʃi], ツ (tsu/tu) is pronounced as [tsɯ], and ジョ(zyo/jo) is pronounced as [ʤo]. Each form in a pair of *roomaji* can be used interchangeably; thus, for example, シャツ ‘shirt’ can be written down in *roomaji* in four ways: shatsu, shatu, syatsu, and syatu.

7.2.2. The Correspondence of Consonant Phonemes Between Japanese and English

Some consonants are not shared between English and Japanese, and others are shared in common between them. The common consonants are easily processed from Japanese to English. The following table demonstrates the correspondence of consonant phonemes between Japanese and English.

Table 7.2. **Consonant Phoneme Correspondence Between Japanese and English**

JAPA	p	b	t	d	k	g	ɸ		(v)			s	z	ʃ		tʃ	ʤ	ts	h	m	n	ɲ		r	w	j
ENG	p	b	t	d	k	g		f	v	θ	ð	s	z	ʃ	ʒ	tʃ	ʤ		h	m	n	ŋ	l	r	w	j

Note. English consonants are taken from Rollings (2004).

As demonstrated in Table 7.2, there is a gap in inventory between Japanese and English, In order to fill this gap, Japanese substitutes the closest Japanese phonemes for non-existing ones, which are illustrated in Chapter 6 and repeated in Table 7.3 below.

Table 7.3. **Substitution of English Consonant Phonemes in Japanese**

JAPA	ɸ	b/(v)	s	z	ʤ	r
ENG	f	v	θ	ð	ʒ	l

For example, as the substitution of English /f/, Japanese chooses /ɸ/ because both English /f/ and Japanese /ɸ/ are voiceless consonants and their place of articulation is close: both consonants have a labial feature.

As a result of the substitution by the closest phonemes in Japanese, the correspondence of some consonants between Japanese and English is no longer a one-to-one relationship, as exhibited in the following.

(1) Consonant correspondences from Japanese to English

(a) /b/ in Japanese → /b/ or /v/ in English
(b) /s/ in Japanese → /s/ or /θ/ in English
(c) /ʤ/ in Japanese → /ʤ/ or /ʒ/ in English
(d) /r/ in Japanese → /r/ or /l/ in English
(e) /z/ in Japanese → /z/ or /ð/ in English

As indicated in (1), there is the correspondence exhibiting a one-to-two relationship from Japanese to English. For example, /b/ in Japanese corresponds to /b/ and /v/ in English, as exhibited in (1a).

7.2.3. The Correspondence Between English Consonant Phonemes and Spellings

In order to retrieve English originals from *katakana* loanwords, it is essential to determine correspondences between English consonant phonemes and spellings. Such correspondences are illustrated in Table 7.4 below.

Table 7.4. **Spelling Rules in English**

English Phoneme	Rules (phoneme → spelling) (spelling → spelling)	Examples
/p/	p → p	hop, rapid
/b/	b → b	rub, trouble
/f/	f → f f → ph (for Greek morphemes)	leaf phoneme
/v/	v → ve /__#	five
/m/	m → m	memory
/n/	n → n n → "gn"	plan sign
/l/	l → l	lady, feel
/r/	r → r r → wr r → rh	ring write rhythm
/h/	h → h h → wh	hat who
/θ/	θ → th	fourth
/ð/	ð → th ð → the /__#	this, with clothe
/ŋ/	ŋ → ng	sing
/w/	w → w / # __ w → u / word-medially w → u / g __ w → u / k __ w → wh / # __ w → (oire) / __ a:	wet quite language quick, inquest while repertoire
/j/	j → y / # __ i, j → (u) / _ u:, ʊə$	yes use, due
/ʃ/	ʃ → sh / #__, __# sh → ti /__ə ʃ → si si → ssi /e, ʌ, mɪ __ si → ci ʃ → ci	fresh station, partial tension confession provincial electrician
/ʒ/	ʒ → si si → s/__ə si → g/#__ si → g/n __ g → ge / __#	vision pleasure genre angel revenge, beige

(table continues)

Table 7.4. (continued)

English Phoneme	Rules (phoneme → spelling) (spelling → spelling)	Examples
/tʃ/	tʃ → ch / #__, __# ch → t /__ə ch → ti /__ən	watch, chicken picture question
/ʤ/	ʤ→ g g → ge / __# g → ge / __a, o g → j / #__a, o u ge → dge / laxV __# dʒ → d / _u:	engine large sergeant, pigeon joy bridge dew, due
/k/	k → c c → k /__e, i, y c → k /___# c → k /n___əl c → q /___w c → q /___s c → xc /___sV xc → cc / #ə __ k → ck / lax V, ə, ɪ ___#	cat, clip keep look, leek twinkle queen, require tax, taxi excel, except accept lock
/g/	g → g g → gue / tenseV __# g → gue / VCɔ __# g → x / __z	girl, hug rogue, league epilogue exam
/t/	t → t t → ed / unvoiced C#__# ed → d/ “e” __ t → tw t → pt t → tte / VC(C) + e__ #	tin washed hoped two receipt roulette
/d/	d → d d → ed / #__#	dinner, raved played
/s/	s → s s → x / k __ s → c /__ə:k s → c /__ent s → c /__ə:t s → se / V___# s → se / l, p, r___# s → ce / aɪ __ s → ce / n __	soon, sent taxi circa cent, central certain lease, mouse false, curse ice romance

(table continues)

Table 7.4. (continued)

English Phoneme	Rules (phoneme → spelling) (spelling → spelling)	Examples
/z/	z → s s → z / # __ s → es / o __ s → es / "y" __ s → zz / laxV__(əl) # s → se / non-laxV__# s → x / g __	easy, dogs zoo cargoes ladies, cries jazz, dazzle raise exam

Note. '$' in the spelling rules indicates a syllable boundary, and '#' indicates a word boundary. All of the rules with examples in the table are taken from Rollings (2004).

Table 7.4 shows how each consonant phoneme is spelled out in English writing. For example, the phoneme /p/ is always realized as 'p' in writing, as in 'hop' and 'rapid'. The /p/ has only one way to be spelled out in English. However, many consonant phonemes have several ways to be spelled out. For example, the spelling of the phoneme /r/ is realized in three ways: /r/→'r' as in 'ring', /r/→'wr' as in 'write', and /r/→'rh' as in 'rhythm'. The phoneme /tʃ/ is also realized in three ways in spelling, as can be noted from checking in Table 7.4. For instance, /tʃ/ is realized as 'ch' when this phoneme is at the beginning of a word or at the end of a word: /tʃ/ → ch / #___ as in 'chicken', and /tʃ/ → ch /____# as in 'watch'. When this phoneme is placed before /ə/, it is realized as 't': /tʃ/ → ch → t /__ə as in 'picture'. When this phoneme is placed before /ən/, it is realized as 'ti': /tʃ/ → ch → ti /__ən as in 'question'. Given the evidence that one consonant phoneme usually has several ways of spellings, it is obvious that English consonant spellings do not possess a one phoneme-to-one grapheme correspondence, unlike Japanese *katakana* orthography.

There are three spelling issues that readers have keep in mind when retrieving English original words from *katakana* loanwords. First, English has "Silent Letters" which appear in words as letters but which are not pronounced. For example, 'b' in climb, 'gh' in right, and 'h' in hour are all silent letters. More examples of such letters in English spellings are exhibited in Table 7.5 below.

Table 7.5. **Silent Letters in English and Their Corresponding *Katakana* Words**

Silent letters	**English words**	***Katakana*/*Roomaji* transcription**
b	climb	クライム/kuraimu
gh	right	ライト/raito
h	hour	アワー/awaa
k	knew	ニュー/nyuu
l	alms	アームス/aamusu
n	damn	ダム/damu
u	guild	ギルド/girudo
w	write	ライト/raito

Note. Examples of English words with silent letters are taken from Rollings (2004).

Table 7.5 demonstrates English words containing silent letters and their corresponding *katakana* words with *roomaji* transcriptions. None of the English silent letters in this table are represented in *katakana* loanwords. For example, 'write' is written as ライト *raito* in *katakana*, and 'w' in 'write' is not represented in the *katakana* word.

Second, similar to Japanese, English orthographically has geminate consonants, and such consonants occur intervocalically and at the end of a word: *offer*, *rubber*, *fill*, and *cliff* are examples of geminates in English writing. More examples of geminates in English are exhibited in Table 7.6 below.

***Table7.6*. English Geminates and Their Corresponding *Katakana* Words**

Phonemes	**English geminates**	***Katakana*/*Roomaji* transcription**
/k/	accord	アコード/akoodo
/g/	hugging	ハギング/hagingu
/ʤ/	suggest	サジェスト/sajesuto
/f/	sapphire cliff	サファイア/safaia クリフ/kurifu
/r/	marry	マリー/marii
/ʃ/	mission	ミッション/misshon
/s/	mass	マス/masu
/z/	scissors	シザーズ/shizaazu
/t/	matter	マター/mataa
/v/	navvy	ナービー/naabii

Note. Examples of English geminates are taken from Rollings (2004).

According to Rollings (2004), consonants which are allowed to construct geminates are /b c d f g j k l m n p r s t z q v/ in English. Table 7.6 shows English geminates with their phonemes and their corresponding *katakana* words with *roomaji* transcriptions. As exhibited in this table, geminates appear in the English written originals, but these are not transliterated into *katakana* loanwords, except for the word 'mission'. For example, 'accord' is written as アコード *akoodo* in *katakana*, and no consonantal geminate appears in the *katakana* word. 'Mission' is written as ミッション *misshon* in *katakana* with the geminate 'ss': the first part of the geminate consonant 's' is indicated by the small ッ in ミッション. This geminate 'ss' in Japanese is produced by Japanese phonological rules, and it does not correspond to the English orthographic geminate. The Japanese phonological rules to produce geminates will be explained later in this chapter.

Third, English has the 'final mute e' which also does not appear in *katakana* loanwords. According to Rollings (2004), this 'e' generally occurs post-consonantally

after a lax vowel, but preceded by a sequence of two consonant sounds. In particular, this occurs in one of the following conditions:

a. ‘e’ marks ‘g’ as /ʤ/ and ‘c’ as /s/ (e.g., ‘flange, edge, pence’)
b. By making ‘s’ non-final, ‘e’ marks as non-morphemic (i.e., as not being a morpheme indicating plural or third person singular – cf. ‘lapse’ vs. ‘laps); after certain voiced consonants it also marks ‘s’ as /s/ (cf. ‘dense, else’ vs. ‘dens, excels’)
c. Final ‘e’ satisfies graphotactic constraints against final ‘v’ and against final post-consonantal ‘l’ (e.g., ‘have, settle’). (The examples ‘every, javelin’ suggest that this constraint applies not only at the end of words but also phonological syllables, although it may be that such words used to be pronounced with three syllables.)
d. Final ‘e’ occurs in some French spellings, usually after a consonant geminate or digraph (e.g., ‘programme, moustache’); these and other cases (e.g., ‘come, shone, bade’) can only be regarded as exceptional (Rollings, 2004: 84).

The final mute ‘e’ appears in English spellings, but not in *katakana* loanwords. For example, the ‘e’ in ‘lapse’ is a final mute ‘e’, but when this word is written in *katakana* as ラプス *rapusu*, this ‘e’ does not appear anywhere in the *katakana* word.

The three features under discussion (silent letters, orthographic geminates, and the final mute ‘e’) are hardly ever shown in *katakana* loanwords; thus, readers have to guess whether English words have silent letters, geminates or final mute ‘e’, when they spell out English words through transliteration rules.

7.2.4. The Correspondence Between Vowel Phonemes and Spellings

Japanese has only five vowels which contrast in length, short vs. long. In contrast, English has numerous vowels, which do not contrast in length, although it possesses vowels which are inherently long. The following illustrates the vowel inventories of Japanese and North American English.

Table 7.7. **Vowels in Japanese and English**

JAPA		a	i	ɯ	ɛ	o										
ENG	æ	a			ɛ		ɪ	ɔ	ʌ	ʊ	aɪ	ai	aʊ	ɔɪ	eɪ	ou

JAPA		a:		i:	ɯ:		ɛ:		o:	
ENG	ə	a:	æ:	i:		u:		e:		ɔ:

Note. English vowels are taken from Venezky (1999).

As demonstrated in Table 7.7, there is a gap in inventory between Japanese and English. In order to fill this gap, Japanese employs substitution of vowels by employing the basic rule that a Japanese vowel possessing either similar height or front/backness to an English vowel becomes a substitute for the English vowel, as is noted in Chapter 6. The following table shows the vowel correspondences between Japanese and English.

Table 7.8. **Vowel Correspondences Between Japanese and English**

JAPA	a	a	ɛ	i, i:	o/a	a	ɯ	ai	ai	aɯ	oi	ɛi	o/oɯ
ENG	æ	a	ɛ	ɪ	ɔ	ʌ	ʊ	aɪ	ai	aʊ	ɔɪ	eɪ	ou

JAPA	a/ɛ/o/i	a:	a:	i:	ɯ:	ɛ:	o:
ENG	ə	a:	æ:	i:	u:	e:	ɔ:/ou

Note. The vowel correspondences between English and Japanese are cited from Quackenbush, Fukada and Kobayashi (1993).

For example, English /ɪ/ was substituted for by Japanese /i/ because both are high front vowels. There are, however, two problematic correspondences in vowels between Japanese and English, as exhibited below.

(2) Vowel correspondence from Japanese to English

A. The one-to-five correspondence from Japanese to English

[a] in Japanese → [æ], [a], [ɔ], [ʌ], or [ə] in English

B. The four-to-one correspondence from Japanese to English

[a], [ɛ], [o], or [i] in Japanese → [ə] in English

As in (2A), [a] in Japanese is transliterated as any of [æ], [a], [ɔ], [ʌ], and [ə] in English. (2B) also shows that any of the four Japanese vowels [a], [ɛ], [o], or [i] can be transliterated as [ə] in English. These are problematic when transliterating a *katakana* loanword to an English word.

7.2.5. Rules From English Vowel Phonemes to Spellings

English orthography is deep, since one consonant phoneme generally does not correspond to one grapheme, as noted earlier. This phenomenon also applies to vowels, since one vowel phoneme has several spelling patterns in English. The ways that vowel phonemes are spelled in English are illustrated in Table 7.9 below.

Table 7.9. **Vowel Spelling Rules in North American English**

Phoneme	Rules (phoneme → spelling) (spelling → spelling)	Examples
/æ(:)/	/æ/ → a /æ:/ → au/__gh	sanity, mat, national, babble laugh
/e:/	/e:/ → a /e:/ → ee/__# /e:/ → ie/__#	sane, mate, nation, table matinee lingerie
/ɛ/	/ɛ/ → e /ɛ/ → ea /ɛ/ → ei/h__r	athletic, met, pennant, discretion bread, breath, feather heir, their
/ou/	/ou/ → o /ou/ → oa /ou/ → ow/l, r___ # /ou/ → ou/__l, gh /ou/ → eau/__#	cone, robe, probity boat, foam, goal, toast arrow, crow, grow, slow boulder, soul, although bureau, chateau, tableau
/ɔ(:)/	/ɔ/ → o /ɔ:/ → ou/__gh /ɔ:/ → au /ɔ:/ → oa	long, song, cross, moss, cost bought, fought, sought, thought audience, cause board
/a(:)/	/a/ → o /a:/ → ea/h__r /a/ → a/__r	sonnet, noxious, hot, fox heart, hearth bar, barn, car, farm

(table continues)

Table 7.9. (continued)

Phoneme	Rules (phoneme → spelling) (spelling → spelling)	Examples
/ʌ/	/ʌ/ → u	induction, rudder, run
	/ʌ/ → o/C__n	ton, son, money, tongue
	/ʌ/ → oo/l__d	blood, flood
	/ʌ/ → ou /C__gh, t, ch	enough, tough, country, touch
	/ʌ/ → e/C__r	fern, her, term
	/ʌ/ → i/C__r	birth, girl, sir
	/ʌ/ → u/C__r	burn, fur, hurt
/ʊ/	/ʊ/ → oo/C__d, k	look, stood, took, wood
	/ʊ/ → u /C__l, sh	bull, full, bush, push
	/ʊ/ → ou	detour, boulevard
/(j)u:/	/(j)u:/ → u/r, ʃ, tʃ, dʒ,Cl___$	tube, rude
	/u:/ → ew/ r, ʃ, tʃ, dʒ, Cl___#	chew, dew, flew
	ew → ue / r, ʃ, tʃ, dʒ, Cl___#	blue, due, glue
	/u:/ → oo/elsewhere	bloom, boom, cool, food
	/u:/ → ou/j, r___#	you, coupon, group
	/u:/ → oe/ C__#	canoe, shoe
/ɪ/	/ɪ/ → i	sit, silly, tittle
	/ɪ/ → e	envelop, electric
	/ɪ/ → y/g, m___C#	gym, myth
	/ɪ/ → y/__ #	bunny
	/ɪ/ → ea/__#	Chelsea, Guinea
	/ɪ/ → ee/ C___ r, n#	beer, deer, been
	/ɪ/ → ey/C__#	abbey, alley, money
/i:/	/i:/ → e	athlete, mete, penal, discrete
	/i:/ → ea, ee	eat, team, see, tree
	/i:/ → ie/C__f, l	brief, chief, field, thief
	/i:/ → ei/ C___n#	caffeine
	/i:/ → ey/__#	key
/ai/	/ai/ → i	writhe, site, title
	/ai/ → ei/___gh	height
/aɪ/	/aɪ/ → i	dime, fine, hide
	/aɪ/ → y/___m, p#	rhyme, hype, type
	/aɪ/ → ie/C___#	die, lie, pie
	/aɪ/ → uy/C___#	buy, guy
	/aɪ/ → ye/C___#	bye, dye, rye

(table continues)

Table 7.9. (continued)

Phoneme	Rules (phoneme → spelling) (spelling → spelling)	Examples
/aʊ/	/aʊ/ → ou / __C$ /aʊ/ → ow / ___#, l	cloud, foul, out cow, allow, howl
/ɔɪ/	/ɔɪ/ → oi /ɔɪ/ → oy /__#	boil, coin, oil toy, boy, Roy
/eɪ/	/eɪ/ → ea /eɪ/ → ai/ C__n# /eɪ/ → ay/C___# /eɪ/ → ey/C___# /eɪ/ → ei/C__gn, l	break, great, steak pain day, clay obey reign, veil
/ə/	/ə/ → a/#___ /ə/ → u/#___ /ə/ → ea/g___ /ə/ → eu/___r# /ə/ → oi /ə/ → ou/m___ /ə/ → eau /ə/ → eo	away, aware, across unhappy pageant, sergeant, vengeance chauffeur, grandeur porpoise, tortoise camouflage, limousine bureaucrat luncheon

Note. '$' in the spelling rules indicates a syllable boundary, and '#' indicates a word boundary. All of the rules with examples are taken from Venezky (1999).

Table 7.9 demonstrates how each vowel phoneme is spelled under what condition in English writing. For example, the phoneme /æ/ or /æ:/ is spelled in one way: /æ(:)/ → a as in 'sanity'. When /æ:/ is placed before 'gh', it is realized as 'au' as in 'laugh'. Table 7.9 clearly exhibits that English vowel spellings do not possess a one phoneme-to-one grapheme correspondence.

Therefore, it can be a difficult task to retrieve the original English words from *katakana* loanwords, since there are various possible ways to spell out one vowel phoneme as well as one consonant phoneme in English writing. However, readers must

find an appropriate spelling simply from a phoneme, often the only clue to determine its English spelling.

7.2.6. The Difference in Syllable Structure Between Japanese and English

As noted in Chapter 6, the basic Japanese syllable structure is CV, while English is CVC. Neither onset nor coda in Japanese is constructed by complex consonant clusters, unlike English. In order to adopt English words, Japanese inserts a vowel at the end of a closed syllable and in a consonant cluster. Thus, CCCVCC (1 syllable) in English is realized CVCVCVCVCV (5 syllables) in Japanese. Accordingly, such inserted vowels have to be removed to retrieve the original English words from *katakana* loanwords. In order to get rid of inserted vowels in *katakana* loanwords, it is necessary to judge whether or not vowels are inserted ones.

With regard to consonant clusters, English allows only certain combinations of consonants to construct such clusters. The following table shows possible combinations of such clusters where vowel insertion is enacted in order to construct *katakana* loanwords.

Table 7.10. **English Consonant Clusters in IPA**

Syllable structure	Onset	Coda
CC	pl, pr, bl, br, tr, tw, dr, dw, kl, kr, kw, gl, gr, fl, θr, sp, st, sm, sn, sl, sw, ʃr, hw	ft, st, lt, ld, sk, lk, lf, lθ, lb, lm, ls, lz, ks, ps, ts, kt, mz, pt, dθ, pθ, mθ tʃt, ʃt, bd, θs, vd, gd, ʤd, zd, vz, gz, pn, bn, tn, dn, kn, gn, fn, vn, sn, zn, ʃn, ʤn, mn, ln, rn, pl, bl, tl, dl, kl, gl, fl, vl, sl, zl, ʃl, ml, rl, mp, nt, nd, ŋk, ns, n(t)ʃ, n(d)ʒ, mn, nl
CCC	spl, spr, str, skr, skw	ksn, mbl, mpt, mps, stl, lpt, spt, lkt, skt, ltʃt, pst, dθs, pθs, fθs, lmd, ksθ, dst, kst, lps, lst, lbz, lmz, lvz, rks, ntl, ndl, ŋkl, ŋgl, nsl
CCCC		ksθs, lfθs

Note. These consonant clusters are taken from Delahunty and Garvey (2003), Kohmoto (1975), and Rockey (1973).

Consonant clusters in Table 7.10 are transcribed in IPA format, indicating how to pronounce them. As demonstrated in this table, English allows certain combinations of consonants in onset and in coda. Note that /n/ (ン in *katakana*) in Japanese is allowed to construct a coda by itself, and is not accompanied by a vowel in the coda. Therefore, when an English word contains /n/ in coda, a vowel insertion does not occur after /n/.

When constructing *katakana* loanwords, Japanese only allows certain vowels to be inserted at the end of the English closed syllable CVC, as noted in Chapter 6 and repeated below. An /o/ is inserted at the end of the syllable, after /t/, /d/, or /h/; either /i/ or /u/ is inserted at the end of the syllable, but only after /tʃ/, /dʒ/, /ʃ/, or /k/; and an /u/ is inserted at the end of the syllable after all other consonants (Quackenbush, Fukada, & Kobayashi, 1993).

When vowels are inserted in consonant clusters, the vowel insertion is also enacted by only certain vowels, as described in Chapter 6 and repeated below. An /o/ is inserted between two consonants of the /tC/, /dC/, and /hC/ combinations as in /toC/, /doC/, or /hoC/; and an /u/ is inserted between two consonants in other environments. For example, /kC/ and /sC/ are realized as in /kuC/ and /suC/, respectively (Quackenbush, Fukada, & Kobayashi, 1993). The rules for vowel insertion under these two conditions are restated in the table below.

Table 7.11. **Vowel Insertion Rules**

		English → Japanese Rules	**Examples**
(1)	/o/ insertion	/t/, /d/ (at the end of a closed syllable) → /to/, /do/	バット/batto/ 'bat' プリント/purinto/ 'print' ガイド/gaido/ 'guide' スピード/supi:do/ 'speed'
(2)	/i/ insertion	/tʃ/, /ʤ/ (at the end of a closed syllable) → /tʃi/, /ʤi/	マッチ/matʃi/ 'match' オレンジ/orenʤi/ 'orange'
(3)	/i/ insertion	/ʃ/, (/k/) (at the end of a closed syllable) → /ʃi/, (/ki/)	ブラシ/burashi/ 'brush' ケーキ/ke:ki/ 'cake'
(4)	/o/ insertion	/dl, dr, dn, dw/ (in a consonant cluster) → /dol, dor, don, dow/	ドリーム/dori:mu/ 'dream' ドワーフ/dowa:fu/ 'dwarf' キャンドル/kjandoru/ 'candle'
(5)	/o/ insertion	/hw/ (in a consonant cluster) → /how/	ホワイト/howaito/ 'white'
(6)	/o/ insertion	/tl, tr, tn, tw/ (in a consonant cluster) → /tol, tor, ton, tow/	トラスト/torusuto/ 'trust' セトル/setoru/ 'settle' トワイライト/towairaito/ 'twilight'
(7)	/u/ insertion	/C/ (in a consonant cluster and at the end of a closed syllable) → /Cu/ /elsewhere	チーズ/chi:zu/ 'cheese' クリーム/kuri:mu/ 'cream' スマイル/sumairu/ 'smile'

Note. All of the rules with examples are taken form Quackenbush, Fukada, and Kobayashi (1993).

Given these rules, it is possible to determine which vowel in *katakana* loanwords should be removed under what condition. In order to remove inserted vowels in a word, consonant clusters in Table 7.10 and the vowel insertion rules in Table 7.11 have to be referred to.

For example, when we want to trace *sutorikuto* back to its English original, we first remove a vowel at the end of a word (*sutorikuto* becomes *sutorikut*), because /o/ is generally inserted in an English closed syllable when /t/ is in coda (see the vowel insertion rules in Table 7.11(1)). Then, get rid of /u/ by referring to the consonant clusters in Table 7.10: *st* is an onset consonant cluster and *kt* is a coda cluster according to the table, so that /u/ can be removed. We have *storikt* as the new form now, and we can see

that *tr* is a consonant cluster in English, according to Table 7.10, and /o/ is the inserted vowel according to the vowel insertion rules in Table 7.11 (6). So we can remove /o/, and finally, we have *strikt* which corresponds to 'strict' in English.

7.2.7. Other Important Rules

There are other important rules to be added to these essential transliteration rules. As described in Chapter 6, when an English word has the V + /r/ sequence, /r/ is deleted and the vowel is lengthened in the Japanese corresponding word in some instances. Due to this process, a transliteration rule needs to be developed to describe this phonological process. In Japanese, /a:/ in a *katakana* loanword generally becomes Vr in English. For example, /*ga:ru*/ in Japanese corresponds to *girl* in English, and /*mane:ga:*/ in Japanese corresponds to *manager* in English (see more examples in Quackenbush, Fukada, & Kobayashi, 1993). Accordingly, the following is the transliteration rule for this change: /a:/ (Japanese) → Vr (English).

Second, when /ru/ is at the end of a *katakana* loanword, it corresponds to /l/ in the English spelling: ボール *booru* 'ball', シアトル *shiatoru* 'Seattle', ローカル *rookaru* 'local'. Japanese does not possess the /r/-/l/ distinction, but only possesses /r/ in its phoneme inventory. Basically, /r/ in Japanese is used for representing both /r/ and /l/ in English. But when /r/ is combined with /u/ to construct the last syllable of a word, Japanese /ru/ corresponds to /l/ in an English word. In this case, /u/ in /ru/ at the end of the Japanese word is an inserted vowel. In other words, when an English word ends with /l/, /u/ is inserted after /l,/ and /l/ is then changed to /r/. Contrastively, when /r/ is at the end of an English word as in 'manager', it is always transliterated as /a:/ in Japanese, and /u/ is not inserted after /r/. So Japanese /a:/ corresponds to /Vr/ in an English word, as

mentioned earlier. Consequently, the following rule calls our attention in discriminating between English /r/ and /l/ in their *katakana* treatment: /ru/ (at the end of a Japanese loanword) → /l/ (English).

Neither /si/ nor /zi/ sounds exist in Japanese although these exist orthographically (see Table 7.1). English has both the /si/-/ʃi/ and /zi/-/ʤi/ contrast, whereas Japanese has only /ʃi/ and /ʤi/; thus, Japanese has to substitute for these absent sounds by other Japanese sounds. When an English word contains /si/, this is always substituted for by /ʃi/ in a Japanese loanword. For example, 'seat' in English becomes /ʃi:to/ (シート *shiito*) in Japanese. When /zi/ is in an English word, this is always substituted for by /ʤi/. For instance, 'zipper' in English becomes /ʤippa:/ (ジッパー *jippaa*) in Japanese. These examples indicate that /ʃi/ and /ʤi/ in Japanese have a one-to-two correspondence to English, and these are stated as rules in the following.

(3) The correspondence of /ʃi/ and /ʤi/ in Japanese to English phonemes
  (a) /ʃi/ (Japanese) → /si/, /ʃi/ (English),
  (b) /ʤi/ (Japanese) → /zi/, /ʤi/ (English).

Japanese uses numerous geminates in loanwords, which are formed by doubling any one of the following obstruents /p b t d k g s z/[27] (Vance, 1987), and a geminate occurs only in an intervocalic position in a word, as in the C_1C_2 of CVC_1C_2V. Geminates in *katakana* loanwords are phonologically created by the following rule: when English vowels are not tense (long) or diphthongs, the final consonant is geminated in a Japanese loanword (Broselow & Park, 1995). A geminate in *katakana* loanwords does not

[27] Voiced obstruents are only allowed to be in coda in loanwords (Vance, 1987).

correspond to an orthographic geminate in the original English words because this is instead created by phonological rules of Japanese. For example, 'cash' is written as キャッシュ *kyasshu* in *katakana*. In this *katakana* word, the geminate 'ss' is present, while the original English spelling of 'cash' does not contain any geminates. So a geminate in a *katakana* loanword is not used for transliterating English words. The first part of a geminate consonant has to be removed in the Japanese loanword, according to the following deletion rule for that geminate: CC (Japanese) → C (English).

7.3. Application of Transliteration Rules in Order to Recover English Original Words From *Katakana* Loanwords

This chapter has so far demonstrated the three components necessary to organize transliteration rules: the most general phonological and orthographic correspondences between Japanese and English, several rules for syllable structure interpretation, and a number of other important rules. All of these rules have to be integrated and sequentially ordered in order to efficiently recover the appropriate English originals. The following sequence shows the application of these ordered rules, and provides some explanation as to how to use these properly.

(1) *Katakana* to *Roomaji*
Katakana loanwords are written down in *Roomaji*.

(2) Japanese characters to phonemes
Roomaji are changed to phonemes: shu → [ʃɯ], ja → [ʤa]. Additionally, [ʃi] in Japanese is changed to [si]/[ʃi], and [ʤi] in Japanese is changed to [zi]/[ʤi].
(i) [ʃi] (Japanese) → [si]/[ʃi] (English)
(ii) [ʤi] (Japanese) → [zi]/[ʤi] (English)

(3) Delete the first part of a geminate consonant (CC (Japanese) → C (English))

(4) Change [rɯ] to [l] at the end of a word ([rɯ] → [l])

(5) Remove inserted vowels at the end of a closed syllable
Inserted vowels are either [ɯ], [o], or [i] at the end of a closed syllable.

(6) Remove other inserted vowels in consonant clusters in a word
In order to determine which ones are inserted vowels, refer to Table 7.10 for English consonant clusters. All [o] and [ɯ] in a word have the possibility of being inserted vowels. Once you find instances of a consonant cluster, delete inserted vowels. The following are rules for this deletion.
(i) [dol, dor, don, dow], [how] → [dl, dr, dn, dw], [hw]
(ii) [tol, tor, tɯr, ton, tow, tɯw] → [tl, tr, tn, tw]
(iii) [Cɯ] / elsewhere → [C]

(7) Japanese C phonemes to English C phonemes
Change Japanese consonant phonemes to English ones. Find corresponding English consonant phonemes from Tables 7.2 and 7.3, and write them down.

(8) English C phonemes to their spelling
Find corresponding English spelling from consonant phonemes by referring to Table 7.4.

(9) Japanese V phonemes to English V phonemes
Change Japanese vowel phonemes to English ones. Find corresponding English vowel phonemes in Table 7.8, and write them down. Simultaneously, the following rule applies to /a:/ in Japanese.
(i) /a:/ (Japanese) → Vr (English)

(10) English V phonemes to their spelling
Find corresponding English spelling from vowel phonemes by referring to Table 7.9.

(11) English word (candidates)
Spell out consonants and vowels that are acquired through all of these procedures, and find an existing English word or a close candidate.

(12) Add geminates, silent letters, or the final mute ‘e’, if necessary.

The following table offers examples of the transliteration process from actual *katakana* loanwords to the original English words by applying transliteration rules we have discussed above.

Table 7.12. **Application of Transliteration Rules to Retrieve English Original Words**

	Applying Rules	**Words**
1		イングリッシュ
	1) Katakana to Roomaji	ingurissyu
	2) Japanese letters to phonemes	i n gɯ ri ʃ ʃɯ
	3) Delete the first part of a geminate consonant	i n gɯ ri ʃɯ
	4) /ru/ → /l/ at the end of a word	
	5) Remove inserted vowels at the end of a closed syllable	i n gɯ ri ʃ
	6) Remove other inserted vowels in a word	i n g ri ʃ
	7) Japanese C phonemes to English C phonemes	n g r/l ʃ
	8) English C phonemes to spelling	n g r/l sh
	9) Japanese V phonemes to English V phonemes	ɪ ɪ
	10) English V phonemes to spelling	i/e i/e
	11) English word (candidates)	ingrish, inglish, engrish, **english**, englesh, etc.
2		デモクラシー
	1) Katakana to Roomaji	demokurashi:
	2) Japanese letters to phonemes /ʃi/ (Japanese) → /si/, /ʃi/ (English)	dɛmokɯ raʃi:/si:
	3) Delete the first part of a geminate consonant	
	4) /ru/ → /l/ at the end of a word	
	5) Remove inserted vowels at the end of a closed syllable	
	6) Remove other inserted vowels in a word /C/ → /Cu/ / elsewhere in a consonant cluster	dɛ mo kɯ ra ʃi:/si: dɛ mo k ra ʃi:/si:
	7) Japanese C phonemes to English C phonemes	d m k r/l ʃ/s
	8) English C phonemes to spelling	d m c r/l ci/si/s
	9) Japanese V phonemes to English V phonemes	ɛ ɔ/ou æ/a/ɔ/ʌ i:/ɪ
	10) English V phonemes to spelling	e/ea o/oa a/o/u ey/y
	11) English word (candidates)	democraciey, democrasiey, democrasey, **democracy**, etc.

(table continues)

Table 7.12. (continued)

	Applying Rules	**Words**
3		ドライバー
	1) Katakana to Roomaji	doraiba:
	2) Japanese letters to phonemes	do rai ba:
	3) Delete the first part of a geminate consonant	
	4) /ru/ → /l/ at the end of a word	
	5) Remove inserted vowels at the end of a closed syllable	
	6) Remove other inserted vowels in a word /tC/, /dC/ → /toC/, /doC/	do rai ba: d rai ba:
	7) Japanese C phonemes to English phonemes	d r/l b/v
	8) English C phonemes to spelling	dr b/v
	9) Japanese V phonemes to English V phonemes	aɪ/ai a:/æ:
	10) /a:/ → Vr	or/ar
	11) English V phonemes to spelling	i or/ar
	12) English word (candidates)	dribor, drivor, dribar, drivar **driver**
4		アイスクリーム
	1) Katakana to Roomaji	aisukuri:mu
	2) Japanese letters to phonemes	aisɯkɯri:mɯ
	3) Delete the first part of a geminate consonant	
	4) /ru/ → /l/ at the end of a word	
	5) Remove inserted vowels at the end of a closed syllable	aisɯkɯri:m
	6) Remove other inserted vowels in a word	ais k ri:m
	7) Japanese C phonemes to English C phonemes	s k r/l m
	8) English C phonemes to spelling	ce c r/l m
	9) Japanese V phonemes to English V phonemes	aɪ/ai i:/ɪ
	10) English V phonemes to spelling	i e/ee/ea/i
	11) English word (candidates)	**icecream**, icecreem, icecrem, icecrim, iceclem, icecleem, etc.

Note. More examples are offered in Appendix E.

It may happen that a few words cannot be transliterated exactly to the original English words, since the patterns of English spelling are complex, and there are always some exceptions in English spelling patterns. In such cases, we have to choose a close candidate among several in the possible cohort. This process of choosing the best word fit among candidates is a typical psycholinguistic finding, and Cohort Theory in

experimental work in lexical access has found that humans often carry out this process in word recognition tasks (see Marslen-Wilson 1989).

7.4. Concluding Remarks

In this chapter, transliteration rules were developed for the purpose of providing foreign learners with an aid to facilitate the comprehension of *katakana* loanwords by retrieving their English originals. Once such rules are taught to them, they may be able to reduce their difficulty with *katakana* words, since they can now quickly and efficiently find the meaning of *katakana* loanwords by themselves.

Two lesser, but related issues emerge from the application of transliteration rules. First, word boundaries are not indicated in *katakana* loanwords, unlike the original English words. For example, アイスクリーム *aisukuriimu* 'ice cream' is always written down as one word in Japanese; however, it is realized by two words in English. When the Japanese word アイスクリーム *aisukuriimu* 'ice cream' is traced back to the original English word, the English word becomes one word, as demonstrated in #4 in Table 7.12. Therefore, as suggested by Inoue (1998, 1999), it is better to indicate a word boundary in a *katakana* loanword, since it makes easy for foreign learners of Japanese to retrieve the English original word. Moreover, by adding a word boundary to a *katakana* loanword, the word becomes shorter and becomes much easier for the learners to retrieve the original English word. For example, アイス *aisu* 'ice' is easier to retrieve than アイスクリーム *aisukuriimu* 'ice cream'. A word boundary is indicated in some loanwords by using a dot such as ジョージ·ブッシュ *jooji busshu* 'George Bush' and スモーク·サー

モン *sumooku saamon* ‘smoke(d) salmon’. From the learners’ perspective, this word boundary practice should be always employed in *katakana* loanwords.

Second, when Japanese borrows English words, it sometimes omits inflectional constituents such as the plural ‘–s’ and the past tense ‘–ed’. This omission may confuse learners of Japanese when retrieving English originals from *katakana* words. The Agency of Cultural Affairs (1997) provides some examples of *katakana* loanwords in which the inflectional constituents are omitted: ‘condensed milk’ is presented as コンデンス･ミルク *kondensu miruku* ‘condense milk’ in Japanese. In this case, the ‘–ed’ in ‘condensed’ is omitted in the *katakana* loanword. ‘Smoked cheese’ is presented as スモーク･チーズ *sumooku chiizu* ‘smoke cheese’ in Japanese. In this case, ‘–ed’ in ‘smoked’ is also omitted in the *katakana* loanword. ‘Starting line’ is presented as スタート･ライン *sutaato rain* ‘start line’ in Japanese. In this case, ‘–ing’ in ‘starting’ is omitted in the *katakana* loanword. Perhaps it is this unexpected process that prompts Seidensticker (2004) to recount his impression that *katakana* loanwords are produced by modifying English words, which are “chopped to pieces and the pieces are reassembled into forms strange to speakers of English” (5). From the point of view of learners of Japanese, the grammatical constituents which exist in English original words should be preserved in *katakana* loanwords, making it easier for them to retrieve English originals from *katakana* loanwords.

In order to make it possible to resolve these two minor issues, perhaps the government needs to design new script protocols for *katakana* loanwords, which would guarantee or at least insure the recoverability of English original words from *katakana*

loanwords. If such reforms were implemented, learners of Japanese would be able to retrieve English original words from *katakana* loanwords that much more easily.

Chapter 8
Conclusion

8.1. Introduction

This dissertation has investigated *katakana* word issues in Japanese writings in detail. Many observers have commented that *katakana* words are increasing in such writings and that this is a problem. However, there is little empirical data to prove whether *katakana* words in current Japanese writings are used more than before. This dissertation pursued this question from a variety of research angles and found that the use of *katakana* words, including *gairaigo*, is indeed increasing in the print media, such as magazines and newspapers, as well as in television commercials and advertising.

The increase of *katakana* words in Japanese writings poses a problem to foreign learners of Japanese whose L1 is English, and despite the fact that most of *gairaigo* have an English origin, these learners generally experience difficulty in processing and comprehending *katakana* words, as reported in previous research by Hatta and Hirose (1984) and by Chikamatsu (1996). From the learners' perspective, the increase of *katakana* words in Japanese writings means that the learners need to know more *katakana* words than ever before to read Japanese writings, and that they should certainly have specific training in the loanword transliteration protocols into *katakana*.

Meanwhile, not only the learners of Japanese but also native readers of Japanese express some difficulty with *katakana* words, as illustrated in results from surveys conducted by two governmental agencies, the National Institute for Japanese Language/ NIJL and the NHK (*Nihon Housou Kyoukai* 日本放送協会, the Japan Broadcasting Corporation). Survey results about the comprehensibility of *katakana* loanwords by the Japanese demonstrated that many Japanese had the experience of being unable to

understand the meaning of some *gairaigo.* From the native Japanese readers' perspective, the increase of *gairaigo* means that such new borrowings are commonly found in everyday writings, many are not deeply rooted in the Japanese *gairaigo* inventory but have been introduced relatively recently, with the ensuing result that many people do not know the meaning of many such words.

Thus, it is clear that both foreign learners of Japanese and native readers of Japanese have difficulty with *katakana* words due to the proliferation of such words. But why are *katakana* words difficult for them? To date, no linguistic analysis has been carried out on this issue, and thus, this dissertation has attempted to provide answers to this question from the foreign learners' point of view and from the native Japanese readers' point of view. Our conclusions are summarized in the following paragraphs.

There are several factors that can be considered to cause foreign learners' difficulty with *katakana* words. First, these learners have difficulty with *katakana* words because they cannot familiarize themselves with *katakana* script from the current teaching texts where *katakana* words do not appear as frequently as *kanji* words and *hiragana* words. Furthermore, word frequency for the majority of *gairaigo* that do appear in textbooks was found to be considerably low. Nor are the pedagogical practices in Japanese classes for foreign learners particularly engaged with the problem of teaching about *katakana*. Thus, learners do not have enough exposure to these words and cannot establish a sense of script familiarity for the words, and as a result, their facility in rapid word recognition and lexical access suffers.

Second, some of *gairaigo* have several written forms because of the ways Japanese writers transcribe them, and the form variations in some *gairaigo* make such

words difficult for the learners. The presence of *gairaigo* with form variations has become so recognizable that a list of transliteration protocols, the *Gairaigo no Hyouki* 外来語の表記 (‘the way to transcribe loanwords in *katakana’*), was issued in 1991. This relatively recent list of transliteration protocols now allows people to transcribe a *gairaigo* in several ways, each of which is officially recognized as legitimate. Due to the presence of several written forms in *katakana* which correspond to one original word, the familiarity of these word forms becomes lower than that of words which do not possess variations in written forms. Thus, the script reform that the government employed has affected the level of the learners’ *katakana* recognition ability to some degree.

Third, *katakana* script is not simply used for writing loanwords from languages other than Chinese, but is also used for writing words as an unconventional style for reasons of emphasis, poetic imagery, and so forth. Thus, *kango* and *wago* are sometimes written in *katakana* in the current Japanese writings for these reasons, and *katakana* script also fulfills this secondary role.

Fourth, difficulty in processing and comprehending *gairaigo* for the learners is associated with the following three groups of *gairaigo*: (1) the words may appear as doublets, in which each word of a pair is connected to a different meaning; (2) there may be a meaning shift from the English originals; and (3) the words may be Japanized English words, which have specific meanings in Japanese. All of the *katakana* words belonging to these groups impede learners directly retrieve the meaning of these words by simply reading/processing these words, because the meaning of these words has been modified by the Japanese. Lastly, the learners’ difficulty with *gairaigo* is also partially caused by phonological differences between Japanese and English. There are some

crucial differences in consonants, vowels, and syllable structure between English and Japanese. Due to these differences, English borrowings need to be reshaped to fit within the Japanese sound structure, before these reshaped words are written in *katakana*. Consequently, English words are re-created as new Japanese words, and the reason why the learners cannot identify English original words from *gairaigo* is because of the phonological processes that the English words undergo. As a result, the *gairaigo* do not allow the learners to retrieve the original English source words in their mental lexicon. This suggests that a thorough knowledge of the phonology of language, coupled with the way in which the phonological rules in Japanese interact with phonological reformulation of loanwords, are among the essential factors for matching representations of words in the mental lexicon with the transcriptions of the orthography (Patel, 1983). This fact leads to the obvious necessity of learning Japanese phonology in Japanese language courses for foreign learners. In other words, having this knowledge makes it possible for them to match English originals in their mental lexicon with their *katakana* counterparts more easily than is currently the case today.

Together with the factors of the *katakana* word difficulty experienced by foreign learners of Japanese, this dissertation also outlined factors that cause difficulty with *gairaigo* for native readers of Japanese. Many Japanese seem to think that certain new *gairaigo* are hard to understand, and that the excessive use of such words even obstructs communication among them, as noted in the research results report by a recent NIJL survey (2004a). This difficulty has been attributed to the characteristics of the *katakana* symbols themselves, as well as the script policy known as ‘the reduction of *kanji* to use’ that the Japanese government has employed after WWII. *Katakana* script can be

characterized as having two important features as orthographic symbols. First, unlike *kanji, katakana* do not convey meaning, but simply carry sounds. Second, they exhibit minimalist angular shapes which often overlap in whole or part. Possibly because of these characteristics, native Japanese readers have more difficulty in processing *katakana* script than *kanji* and *hiragana* (Kess & Miyamoto, 1999), and more difficulty in recognizing *katakana* words than *kanji* words and *hiragana* words. With regard to the script policy of reducing *kanji* in common use, two consequences of the implementation of the script policy are recognized: the first consequence is that contemporary Japanese people appear to possess a lower level of *kanji* knowledge as compared to Meiji intellectuals, and the second consequence is that they are officially allowed to use *kanji* only appeared in the List of *Jouyou Kanji* 常用漢字 (List of *Kanji* for General Use). Thus, modern Japanese may not be able to create new *kanji* compounds as freely as the Meiji intellectuals. And loanwords are not translated into transparent *kanji* compounds anymore, making the substituted *katakana* loanwords difficult to understand for the Japanese.

This section has summarized the factors that are considered to cause difficulty with *katakana* words for both foreign learners of Japanese and native readers of Japanese. Since it was confirmed that *katakana* words have increased in Japanese writings, this increase poses problems for both of them. In order to cope with this situation, this concluding chapter now offers some suggestions as to how to make *gairaigo* more comprehensible for both Japanese readers and foreign learners from the point of view of script policy and pedagogical practice. And in the last section, some conclusions regarding the role of *katakana* in the Japanese orthographic system will be discussed in the light of the history of the Japanese language and its writing system.

8.2. Characteristics of Current Japanese Writings

Before offering some suggestions as to how to make *gairaigo* more comprehensible for foreign learners of Japanese and native readers of Japanese, it may be useful to re-iterate the research findings we reported about *katakana* script and *katakana* words in current Japanese writings. Together with the investigation of the increased use of *katakana* words, this dissertation also examined various aspects of word usage in such writings. More specifically, by capturing the differences in the use of *katakana* words between different publication outlets, we charted the deployment of script types in the overall range of Japanese writings, and also singled out several characteristics of word usage in the current Japanese writings.

First, it was found that not only *gairaigo,* but also other types of words such as *kango* and *wago,* are often written in *katakana*. These results indicate that although *katakana* script is mainly used for presenting *gairaigo, katakana* script is also commonly used in Japanese writings for presenting various types of words in novel and unconventional ways. Second, *katakana* words appear to be larger in number than alphabetic symbols and numbers but smaller in number than either *kanji* words or *hiragana* words. Third, it was confirmed that English continues to be the major source of *gairaigo* in Japanese, although various loanwords from other foreign languages did appear in the texts examined.

This dissertation also found several differences in word usage among the three types of media, magazines, newspapers, and TV commercials. First, newspapers tend to use more *kanji* words than other media. Second, TV commercials tend to use more *katakana* words and words written in alphabetic symbols and numbers than other media

representations. Third, TV commercials tend to present words in an unconventional style more often than magazines and newspapers. Fourth, newspapers tend to present words in a conventional style more often than magazines.

The use of *gairaigo* relative to other *katakana* words such as Japlish and onomatopoeia also revealed several differences according to the types of media. First, newspapers use the least *gairaigo* of all three media, because the news media tend to avoid using unfamiliar words since they are responsible for providing formal information and not focusing on influencing the emotions of readers, as is the case in advertising (see Daulton, 2004). Perhaps due to this attitude, newspapers use the least *gairaigo* among the three media types. In contrast, TV commercials use the most *gairaigo*. Relevant to this result, there is the NHK's survey results about *gairaigo* use, in which the participants voiced their perceptions that broadcasting companies and the advertising industry use more *gairaigo* than any other organizations (see Sakamoto, 2002). These results suggest that TV commercials and broadcasting companies may be responsible for a large part of the current influx of *gairaigo* in Japanese. Third, the use of *gairaigo* in TV commercials shows a significant difference from other media. That is, the use of Japlish is much higher in TV commercials than the other two outlets, suggesting that some Japlish are created by the advertising industry.

In addition to a significant use of *gairaigo*, TV commercials, among the three types of media, also showed the differential use of script types matched to the target audience most clearly. Words in *roomaji* are used more in the commercials targeting the younger generation, while *kanji* words are used more in the commercials targeting family and the older generation.

From a comparison of the data, a few changes in script usage became evident as emerging since the time of studies previous to our study. First, both the use of *katakana* words and the use of *gairaigo* have increased in magazines and newspapers from the time of the previous studies to our study.

Second, *katakana* script is mainly used for representing *gairaigo* in recent Japanese writings, and this tendency appeared more strongly in our results for magazines and newspapers than the results by Saiga (1955) exhibited in Chapter 4. The comparison of the data for *katakana* script use according to word types in magazines between our study and Saiga's study is repeated in Table 8.1 below.

Table 8.1. **Percentage of the *Katakana* Use in *Gairaigo*, *Kango,* and *Wago* in Magazines**

	This study	Saiga's study
Gairaigo	91.78%	86%
Kango	0.96%	2%
Wago	7.25%	10%
Other types	N/A	2%

Note. 'Other types' in Table 8.1 indicate *furigana* 'reading' for *kanji* and other symbols such as alphabet and numbers. Our study does not provide the data for 'Other types' since we did not count reading for *kanji*, alphabet symbols, and numbers which are written in *katakana*. The categorization of words written in *katakana* in our study is different from Saiga's in this respect, as described in Chapter 4.

As in this table, our data for *gairaigo* (91.78%) is larger in number than Saiga's data for *gairaigo* (86%). On the other hand, our data for *kango* and *wago* written in *katakana* (8.21%) is smaller in number than Saiga's data for such words (12%).

Our newspaper observation results also demonstrated that *katakana* script tends to be used mainly in *gairaigo* in comparison to Saiga's data, originally presented in Chapter 4 and repeated in Table 8.2 below.

Table 8.2. **Percentage of the *Katakana* Use in Different Types of Words in Newspapers Between Two Studies**

	Our Study	Saiga's Study
Gairaigo	96.66%	79.67%
Kango	0.34%	3.33%
Wago	3.02%	16.00%
Other types	N/A	1%

As is demonstrated in Table 8.2, our data for *gairaigo* (96.66%) is larger in number than Saiga's data for *gairaigo* (79.67%). On the other hand, our data for *kango* and *wago* written in *katakana* (3.36%) is much smaller than Saiga's data for such words (19.33%).

The results of both media types clearly show that *katakana* script is used for presenting *gairaigo* more frequently in our study than Saiga's study and that such script is used for presenting *kango* and *wago* less frequently in our study than Saiga's study. In other words, the use of *katakana* script for presenting *kango* and *wago* as an unconventional style in magazines and newspapers has decreased from the time of the previous studies to our study. These results allow us to state that there is a tendency in recent magazines and newspapers not to write *kango* and *wago* in *katakana*, but to write such words in conventional scripts. That is, *kango* are written in *kanji*, and *wago* are written in either *kanji* or *hiragana*. This is a surprising result, since it was assumed in Chapter 1 that the current Japanese writings might use an unconventional style more often than ever before. Perhaps this assumption arises from the use of scripts in TV commercials and advertisements where people particularly notice unconventional script usage, and this makes them infer that the current Japanese writings also use unconventional script usage more often than before.

In summary, it was revealed that the unconventional script usage in *katakana* and variety of word types in *katakana*, including Japlish and *gairaigo* not only from English

but also from other languages, are present in current Japanese writings. These, together with the increase in *katakana* loanwords, suggest an evolving situation for the contemporary written language in the history of the Japanese orthographic system. In Chapter 1, this dissertation hypothesized that script usage has been changing in Japanese, and more specifically, that *katakana* script in its various usages is involved. It was confirmed from the observation in Chapter 4 that script usage has been changing in Japanese and the use of *katakana* script, especially for presenting *gairaigo*, has increased in recent years although the use of such script for presenting *kango* and *wago* has decreased in recent publication outlets.

8.3. Proposals to Improve the *Katakana* Word Situation in Japanese Writings

In order to read current Japanese publications where various types of *katakana* words are inevitably present, foreign learners of Japanese need to possess a considerable number of *katakana* words in their lexicon and to have a sufficient ability to process and comprehend *katakana* words. However, it is almost impossible to have a *katakana* word inventory in the mental lexicon which is sufficient enough to read contemporary Japanese writings, since new *katakana* words are being continuously introduced in Japanese writings, while unpopular words become obsolete in a short period of time and people no longer use such words with facility. Furthermore, the presence of a large number of *gairaigo* in Japanese writings also poses a problem for native readers of Japanese, because some such words are recently introduced and not deeply established in the Japanese vocabulary inventory, so that many Japanese do not know the meaning of these words.

This dissertation suggests that, in order to help reduce difficulty with *katakana* words, it may be necessary to design and implement an appropriate script policy. Some scholars (see, for example, Seidensticker2005; Taylor and Taylor 1995), have proposed the presentation of loanwords in their original spelling in alphabetic symbols, since the adoption of *gairaigo* written in the alphabet allows the Japanese to borrow Western terms more easily into Japanese lexicon than today. However, even this presentation does not solve the problem pointed out by the NLC (2000) and the NIJL (2004a), namely, that the older generation of Japanese have more difficulty in comprehending *gairaigo* than the younger generation. This phenomenon leads us to make a reasonable assumption that the older generation are less familiar with foreign languages including English than young people. Thus, when loanwords are written only in the alphabet, the older generation may not be able to read such words and be unable to recognize the meaning of these words. Accordingly, their specific *katakana* word difficulty will not disappear. Given these thoughts, a script reform of presenting loanwords only in alphabet is not ideal for the current Japan's situation.

Rather than presenting *gairaigo* in alphabetic symbols, this paper suggests that low-frequency, unfamiliar *gairaigo* need to be continuously translated into Japanese. In fact, this very exercise has been conducted by the *Gairaigo Iinkai* 外来語委員会 'Loanword Committee' in the National Institute for Japanese Language, a committee specifically established to translate low-frequency, unfamiliar *gairaigo* into new native Japanese words. This practice needs to be carried out on a larger scale than today in the ways discussed in the following paragraphs.

According to the National Language Council/NLC (2000), there are three types of

gairaigo in Japanese: (1) words which are used widely in public, and which can be considered to be rooted in Japanese word inventory; (2) words which are not firmly rooted in the Japanese word inventory, so that people understand the words easier when these words are translated into existing Japanese words; and (3) words which are not at all firmly rooted in the Japanese word inventory, and there are no equivalent words in Japanese so that these words cannot be translated into existing Japanese words. The NLC (2000) suggests that *gairaigo* in the first group be used as they are and that *gairaigo* in the second group be translated into Japanese. With regard to *gairaigo* in the third group, the NLC states that these words should be presented in *katakana* with some Japanese description added.

Similar to the NLC's categorization, Inoue (2004) provides a classification of *katakana* loanwords: (1) those which were borrowed many years ago and are integrated into the Japanese lexicon, so much so that they are hard to recognize as loanwords; (2) those which are firmly rooted in the Japanese lexicon, though one can tell that such words have foreign origins; and (3) those which are not firmly rooted in the Japanese lexicon, so that one can tell that such words have foreign origins. The following table summarizes the categorization of *katakana* loanwords by the NLC (2000) and Inoue (2004).

Table 8.3. **Categorization of *Katakana* Loanwords**

Type	The NLC (2000)	Inoue (2004)	This Dissertation
1	(1) Words which are used widely in public, and which can be considered to be rooted in Japanese word inventory	(1) Words which were borrowed many years ago and are integrated into the Japanese lexicon, so that they are hard to recognize whether they are loanwords (e.g., *tabako* タバコ 'tobacco' and *tenpura* 天ぷら)	(1) Words which were borrowed many years ago and are integrated into the Japanese lexicon, so that they are hard to recognize whether they are loanwords (e.g., *tabako* タバコ 'tobacco' and *tenpura* 天ぷら)
2		(2) Words which are firmly rooted in the Japanese lexicon, but one can tell that such words have foreign origins (e.g., *staato* スタート 'start' and *rajio* ラジオ 'radio')	(2) Words which are firmly rooted in the Japanese lexicon, but one can tell that such words have foreign origins (e.g., *staato* スタート 'start' and *rajio* ラジオ 'radio')
3	(2) Words which are not firmly rooted in the Japanese word inventory, so that people understand the words easier when these words are translated into existing Japanese words	(3) Words which are not firmly rooted in the Japanese lexicon, and one can tell that such words have foreign origins (e.g., *jirenma* ジレンマ 'dilemma' and *fikushon* フィクション 'fiction')	(3) Words which are not firmly rooted in the Japanese word inventory, so that people understand the words easier when these words are translated into existing Japanese words
4	(3) Words which are not at all firmly rooted in the Japanese word inventory, and there are no equivalent words in Japanese so that these words cannot be translated into existing Japanese words		(4) Words which are not at all firmly rooted in the Japanese word inventory, and there are no equivalent words in Japanese so that these words cannot be translated into existing Japanese words

As is shown in the table, words in the first two groups in Inoue (Type 1 and 2) are considered to belong to the first group in the NLC, while words in the third and fourth group in the NLC (Type 3 and 4) are considered to belong to the third group in Inoue. Taking their categorizations into consideration, this paper categorizes *katakana*

loanwords into four types (Type 1-4), as indicated in Table 8.3.

Following the NLC's suggestion, this paper proposes that loanwords belonging to Type 1 do not need to be translated, since they are perceived as Japanese words by many Japanese and since they are often written in *hiragana* or *kanji*. Different from the NLC, however, this paper suggests that all *gairaigo* which are low in frequency and unfamiliar need to be translated, even though they belong to Type 2. In the case of words in Type 4, they need to be created as new Japanese words by using *kanji* symbols. In order to accomplish this, it is necessary to clearly distinguish loanwords belonging to Type 1 from others (Type 2, Type 3, and Type 4). Furthermore, frequency and familiarity of *gairaigo* need to be examined regularly. Amano and Kondou (2003a, 2003b) published their results of frequency and familiarity of words based on the vocabulary that are listed in the Japanese dictionary *Sin Meikai Kokugo Jiten* 新明解国語辞典 (4th edition) and that appeared in the *Asahi* newspaper from 1985 to 1998, and this type of work must be periodically updated since new *gairaigo* are being continuously introduced in Japanese writings, while unpopular words fall out of use in a short period of time. One of the government agencies, such as the National Institute for Japanese Language, needs to engage in categorizing loanwords into two groups and examining the frequency and familiarity of such words, and the results of these observations need to be issued for the public use. By translating unfamiliar, low-frequency words into Japanese words, such *gairaigo* become much easier for native Japanese readers to comprehend, and the number of *gairaigo* written in *katakana* may be decreased in the Japanese word inventory.

8.4. Changes in Japanese Language Education

Since it was confirmed that *katakana* words have increased in Japanese writings, this increase poses problems for both foreign learners of Japanese and native readers of Japanese. One of the goals of this dissertation was to offer possible solutions for *katakana* word problems that may aid both Japanese speakers and foreign learners of Japanese to access and read various types of publications more easily. As one of the solutions, the encouragement of translating unfamiliar, low-frequency *gairaigo* was offered in the previous section. This section demonstrates some suggestions that can be employed in Japanese language education for foreign learners. Such suggestions should be regarded as part of a script policy that the Japanese government can implement.

First, it is necessary to develop appropriate educational materials, since the current materials are not sufficient enough to cope with the *katakana* situation in Japan, as pointed out by Prem (1991). Chapters 5 and 6 discussed the strategies that can be employed in textbooks, since there is much room for improvement in such textbooks, and those strategies are re-iterated below.

First, *katakana* should be taught first in order to develop familiarity with *katakana*. Once they develop familiarity with *katakana*, then *hiragana* can be introduced. Second, *furigana* can also be written in *katakana*. Third, onomatopoetic words can also be written in *katakana*. Fourth, a *kanji* list can provide its *on*-reading in *katakana* and its *kun*-reading in *hiragana*. Fifth, the ratio of *katakana* words can be increased to 15-18% in comparison with *kanji* words and *hiragana* words. Sixth, any given textbook needs to have a chapter dedicated to teach *katakana* script and *katakana* words, and the textbook must include at least the following issues. First, the chapter dealing with *katakana* issues

needs to provide explanations for the six conditions where *katakana* loanwords are used, as described in Chapter 6. Second, the *katakana* chapter needs to teach that the grammar of some Japanized English compounding words does not follow English grammar (see Shibasaki, Tamaoka, and Takatori in press). Third, the learners need to be taught that *katakana* script is not simply used for writing loanwords from languages other than Chinese, but also used for writing *wago* and *kango* in an unconventional style for the purposes of emphasis, poetic imagery, and so forth. Fourth, the learners also need to be taught that one English word can be written in several ways in *katakana,* due to the way people transcribe them. Fifth, the learners need to be taught that the meaning of some *gairaigo* is modified from the English originals. Lastly, and perhaps most importantly, transliteration rules from *katakana* words to original English words need to be included in textbooks.

Foreign learners of Japanese have difficulty with *katakana* words because they cannot familiarize themselves with *katakana* script from the current teaching settings where *katakana* words do not appear as frequently as *kanji* words and *hiragana* words. Accordingly, learners do not have enough exposure to these words and cannot establish a sense of script familiarity for the words, and as a result, they suffer in their lack of facility in rapid word recognition and lexical access. In order to help them develop their sense of script familiarity for the words and to familiarize themselves with *katakana* script, *katakana* script and *katakana* words need to appear frequently. Japanese language education in the new approach above is designed to develop their sense of script familiarity for *gairaigo* and to familiarize themselves with *katakana* script.

Second, it is necessary to match loanwords used in Japanese language education with those used in the popular Japanese writings on a regular basis (see Prem 1991). Only then will the learners' knowledge of *gairaigo* approach the *gairaigo* inventory used in popular writings. As Chapter 5 outlined, a comparison of *katakana* loanwords used in textbooks and media text examined in this dissertation's research found that the percentages of matching words are low. In other words, not many *katakana* words used in current Japanese writings appear in the textbooks. It is necessary to fill this gap, and this would be a task of the National Institute for Japanese Language, since they have already created a list of basic vocabularies for Japanese language teaching in 1984.

Third, teachers of the Japanese language to foreigners must be trained to recognize how difficult *katakana* words are for foreign learners. This change in attitude and an awareness of learners' perspectives will make teachers specifically address *katakana* issues and develop the appropriate methods for teaching *katakana* words. In order to change teachers' attitudes toward *katakana* and to make them aware of the difficulty with *katakana* words for the learners, government agencies can play a significant role. There are several agencies that are currently involved in Japanese language education and language policy. The Ministry of Education, Culture, Sports, Science and Technology/MEXT (*Monbu-kagaku-shou*文部科学省) is the main body for designing and implementing language policy. The Agency for Cultural Affairs/ACA (*Bunkachou* 文化庁) is responsible for improving and spreading Japanese, and for teaching Japanese as a foreign language (MEXT, 2003a). After the abolishment of the National Language Council in 2000, the National Language Subdivision of the Council for Cultural Affairs (*Bunka Shingikai Kokugo Bunka-kai* 文化審議会国語分科会) was

established in 2001 for deliberating and investigating Japanese language issues (MEXT, 2003b). The National Institute for Japanese Language/NIJL (*Kokuritsu Kokugo Kenkyuujo* 国立国語研究所) conducts research on both the Japanese language use among the Japanese people and Japanese language education for foreigners (NIJL, 2003). The NIJL also trains instructors for the Japanese language, and develops teaching materials for Japanese language education for foreigners (ACA, 2003). The Japan Foundation/JF (*Kokusai Kouryuu Kikin* 国際交流基金) (2005), an organization under the Ministry of Foreign Affairs, was established in 1972 to promote three major issues, (1) an international arts and cultural exchange, (2) overseas Japanese language education, and (3) overseas Japanese studies as well as intellectual exchange. *Nihon Housou Kyoukai*/NHK 日本放送協会 (the Japan Broadcasting Corporation) is involved in language policies by disseminating information relevant to such policies through its broadcasting. All of these agencies should be involved in implementing the script policy amendations that this dissertation is proposing, with such government agencies also making recommendations to authors of textbooks for foreign learners and requiring implementation of better *katakana* training practices and protocols.

8.5. Conclusion

As discussed in Chapter 4, about 60% of *gairaigo* used in Japanese writings have an English origin. This shows how popular English is in modern Japan. Indeed, English is very popular there, since words and phrases in English can be easily recognized anywhere in Japan, regardless of whether they are grammatical by native standards or not (English Tastes Delicious, 2000). English has achieved the highest status among foreign

languages ever since the Meiji era (Kimura, 2002). For example, Yamamoto (2001) provides evidence of English having a higher status than other foreign languages in a survey which examined how Japanese students in two universities perceived what it meant to be 'bilingual' in relation to their specific languages. The results illustrate that over 73% of the students perceive a bilingual as one who is a fluent speaker of both Japanese and English, but not as one who is a fluent speaker of Japanese and other minority languages in Japan such as Chinese and Korean (Yamamoto, 2001). This perception has been partially caused by the implementation of a language education program in which English has been mainly taught as the foreign language in public schools. In addition to teaching English as the primary foreign language in the public education system, the Japanese government has even been pondering the possible adoption of English as one of its official languages ever since the Meiji era (English Tastes Delicious, 2000).

In spite of the popularity and high status of English, one of the main reasons that native English speakers have difficulty in comprehending *gairaigo* originating in English is because English sounds are reshaped to fit into the Japanese phonemic system when Japanese borrows words from English. In order to make *gairaigo* easier for the learners to process and comprehend, transliteration rules to retrieve English originals from *katakana* loanwords were developed in Chapter 7. Another strategy that this dissertation suggested was the improvement of *katakana* education in the Japanese textbooks for foreign learners. Specific suggestions were proposed in Chapters 5 and 6, with recommendation in this dissertation largely focused on foreign learners of Japanese whose L1 is English. However, as noted by numerous studies (see, for example, Chen

and Banzai 1992, Kinjou 2004, and Tsubone, Suzuki, Sakamoto, and Kamiya 2001), *katakana* words also pose a big problem for foreign learners of Japanese whose L1 is not English; their difficulties with *katakana* words arise from the fact that they are less familiar with English words than native English speakers are. Other factors that cause their *katakana* difficulty need to be examined in the near future to help them ameliorate their difficulty.

It is obviously necessary to address the issue of *katakana* word difficulty possessed by foreign learners of Japanese and native readers of Japanese, because *katakana* words have given rise both to communication problems among the Japanese themselves and to processing and comprehension problems among foreign learners of Japanese. Moreover, the Japanese government has promoted the internationalization of the Japanese language in order to disseminate the language world-wide, believing that the spread of the Japanese language leads other cultures in the world to understand Japan and Japanese people more deeply. The assumption is that the language should be a bridge from the Japanese to other people in the world (see NLC 2000). Therefore, the Japanese language must be a suitable means for communication between the Japanese and other people. The proposals that this dissertation has offered should contribute to the reduction of *katakana* word difficulty on the part of native Japanese readers as well as foreign learners of Japanese. Furthermore, such proposals also contribute to the promotion of the more efficient internationalization of the Japanese language, since *katakana* words become more comprehensible, thus making the Japanese language easier to learn for foreign learners.

When shifting our view from the issue of *katakana* word difficulty to the practice of borrowing words, we can see interesting aspects of *katakana* words in association with the Japanese language which lead us to find a new interpretation of the language. Japanese has been borrowing words since the time of the introduction of *kanji*. The language has borrowed words from Chinese, Sanskrit, English, and various other languages continuously and without hesitation historically. The Japanese not only have borrowed words but also have internalized the borrowed words to the degree that they now create their own words by drawing on vocabulary in the loanword inventory (see Kabashima, 1984). For example, the Japanese have invented many *kanji* compounds, such as 権利 *kenri* 'right' and 真理 *shinri* 'truth', which did not exist in Chinese. In like manner, the Japanese have more recently invented various English words which do not make sense to native English speakers. Such words are called 'Japanized English' or 'Japlish', and some people think that these words should not be used because they do not make sense in English and because they hinder Japanese people's learning English (see Shibata, 1993). However, the Japanese have been creating new words using vocabularies from other languages for centuries, and this flexibility and fluidity is one of the major characteristics of the Japanese language. It is not possible to force Japanese people to stop making new words constructed from vocabularies originating in other languages. Furthermore, Japanese people have a positive attitude toward the use of Japanized English words. The NHK survey of the acceptability of Japanized English words by the Japanese in 2002 found that about 73% of the survey participants responded that it is fine to use Japanized English; about 58% of the participants responded that it is fine to use truncated loanwords (see Sakamoto, 2002). Given these results, Japanese people are

likely to keep producing Japanized English words, since the general public appears to support the creation and use of such words. Accordingly, it is better to think of how to accommodate *gairaigo* and Japanized English words in Japanese, and not to concentrate on how to forbid using them. This view really entails a different perspective on the current issue of *katakana* words, and is more in keeping with a globalizing, international perspective on the role of the Japanese language in Japan and its relationship with the rest of the world.

One might therefore respond to those observers who have lamented that *katakana* words are increasing in Japanese writings, causing untold problems by viewing the increase of such words as a benefit. The adoption of borrowed words from other languages has made Japanese diverse, and this can instead be considered as one of the truly unique and authentic characteristics of Japanese (Kawaguchi & Tsunoda, 2005). Any consider that Japan is undergoing massive changes in a large number of areas, not only business, culture, and education, but also government policies which are transforming the society into a landscape radically different from both the traditional past and the recent past. During these social changes, it is natural that Japan experiences uneasiness and seeks a more definitive vision of what constitutes 'Japaneseness' (Nathen 2004). Applying this thinking to the issue of *katakana* words, Japan can be seen in the process of re-examining script policy and questioning the role of *gairaigo* in the total vocabulary inventory. Therefore, many people in the public sector and in the government sector are concerned about *katakana* words in Japanese, and some people felt the language to be in the condition of *midare* 乱れ 'disorder' which is caused by the increase of *gairaigo* (see Kawaguchi & Tsunoda, 2005). During this evolutionary process, they

need to come to grips with the contemporary popular representation of the Japanese language in those aspects that can lead them to rediscover the Japanese language and 'Japaneseness'. Through re-examining script policy and questioning the role of *gairaigo* in the Japanese vocabulary inventory, the Japanese orthographic system should be interpreted and accepted in a way that *katakana* word problems are not perceived as problems in need of being resolved. Instead, this flexibility and creative fluidity should be viewed as a positive and unique feature of the language, and in fact, an inevitable part of the evolving history of Japanese.

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Appendices

Appendix A: The Number of Vocabulary Items in Each Type of Script in 11 Textbooks

		Textbooks	(A) Number of *katakana* words	(B) Number of *kanji* words	(C) Number of *hiragana* words	Total words
A	1	**Youkoso ようこそ 1**	429	1,095	252	1,774
A	2	**Nakama なかま 1**	189	771	220	1,180
A	3	**Genki げんき 1**	87	708	172	967
A	4	**Interactive Japanese 1**	30	140	55	225
A	5	**Spoken Japanese through Video Skits 1**	135	314	172	621
B	6	**Youkoso ようこそ 2**	270	1,383	131	1,782
B	7	**Nakama なかま 2**	163	869	108	1,140
B	8	**Genki げんき 2**	162	1,226	315	1,703
B	9	**Interactive Japanese 2**	42	360	89	491
C	10	**An integrated approach to intermediate Japanese**	100	1,218	200	1,518
C	11	**Authentic Japanese**	120	1,270	165	1,555

Appendix B.1. The Word Comparison List between Each Textbook and the 1984 NLRI List (for 5 textbooks, Youkoso 1, Nakama 1, Genki 1, Interactive Japanese 1 and Spoken Japanese 1)

Words	Youkoso1	Nakama1	Genki1	Inter-Japa 1	Spoken 1
アイス	1				
アイテム					
アジア		1	1		
アッバス					
アップ					
アベンヌ					
アボガド					
アメリカ	1	1	1	1	1
アラブ					
イギリス	1	1	1		1
イスラエル					
イメージ					
イラク					
エネルギー					
オーヴン	1				
オーディオ					
オフィス					
オレンジ	1	1			1
カーキ					
カジュアル	1				
ガス					
カット					
カラー	1				
ギボウシ					
キモ					
キャミ					
グーディス					
クール					
クラブ	1			1	
クリーム	1	1			
ケア					
コク					
コスメ					
コメ					
シーン					
システム					
シャツ	1	1	1	1	1
シャトー					

(table continues)

Appendix B.1. (continued)

Words	Youkoso1	Nakama1	Genki1	Inter-Japa 1	Spoken 1
シンプル					
スカート	1	1			
スキン					
スタイリスト					
スタイル					
スタッフ					
スパ					
セルゲイ					
ソース	1				
タイト					
タイプ	1				
ダッチ					
チーズ	1				
チーム					
チェック					
チリ					
チンギス					
ツヤ					
ディテール					
データ					
テーマ					
デザイン	1				
デニム					
デルモ					
トマト	1	1	1		
トライ					
ドリフト					
ニコール					
ヌーベル					
ハーン					
パウダー					
パレスチナ					
パワー					
パンツ	1	1	1		
ピエール					
ピッツァ					
ピンク	1	1	1		
ファーブル					
フェミニン					
プラス					

(table continues)

Appendix B.1. (continued)

Words	Youkoso1	Nakama1	Genki1	Inter-Japa 1	Spoken 1
フランス	1	1		1	
ブランド					
プリント	1		1		
ブレンド					1
プロ					
ヘア	1				
ポール		1		1	1
ホテル	1	1	1		1
ボルドー					
ミニ					
メイク					
メキシコ		1			
メニュー	1		1		1
モア					
モデル	1	1			
モンゴル					
ヨーグルト	1				
ヨーロッパ					
ライフリー					
リゾート					
レストラン	1	1	1	1	1
レンジ	1				
ロートシルト					
ローバー					
ワイン	1	1			1
南ア					
	Youkoso1	Nakama1	Genki1	Inter-Japa 1	Spoken 1
	28	17	11	6	10
	26.90%	16.35%	10.58%	5.77%	9.62%

Appendix B.2. The Word Comparison List between Each Textbook and the 1984 NLRI List (for 6 textbooks, Youkoso 2, Nakama 2, Genki 2, Interactive Japanese 2, Integrated Japanese, and Authentic Japanese)

Words	Youkoso2	Nakama2	Genki2	Inter-Japa 2	Integrated	Authentic
アイスクリーム						
アイデア						1
アイロン			1			
アクセサリー						
アクセント						
アジア			1		1	
アナウンサー	1					
アパート	1	1	1		1	
アフリカ						
アマチュア						
アメリカ			1	1	1	
アラビア		1				
アルカリ						
アルコール						
アルバイト			1	1		
アルバム		1				
アルミ						
アンテナ	1					
イギリス			1			
イタリア						
イメージ						
イラク						
インク				1		
インキ						
インテリ						
インド	1				1	
イントネーション						
インドネシア						
インフレ						
ヴィザ						
ウィスキー						
ウール						
ウェートレス						
エスカレーター						
エチケット	1					
エネルギー		1				

(table continues)

Appendix B.2. (continued)

Words	Youkoso2	Nakama2	Genki2	Inter-Japa 2	Integrated	Authentic
エレベーター						
エンジン	1					
オートバイ	1					
オーバー						
オランダ					1	
オリンピック						
オルガン						
カーテン	1		1			
カード		1	1			1
ガス	1	1				
ガソリン	1	1	1			
カバー					1	
カメラ	1	1	1			
カメラマン						
カラー	1					
ガラス	1					
カルタ						
カレンダー						
ギター			1			
キャベツ						
キリスト	1					
キロ		1	1			
クイズ						
クラシック						
クラス			1			
クラブ			1	1		
グラフ						
グラム		1				
クリーニング						
クリーム						
グリーン	1	1	1			
クリスマス		1	1			
グループ						
ケーキ			1			
ゲーム			1			1
コース		1				1
コーチ						
コート						
コード						
コーヒー	1	1		1		

(table continues)

Appendix B.2. (continued)

Words	Youkoso2	Nakama2	Genki2	Inter-Japa 2	Integrated	Authentic
コップ			1			
コピー	1	1	1		1	
ゴム			1			
ゴルフ			1		1	
コンクール						
コンクリート						
コンセント						
サークル					1	
サービス	1	1			1	
サイレン						
サイン		1				
サラダ		1	1			
サラリーマン		1		1		1
サンドウィッチ				1		
シーズン						
シーツ						
ジャーナリスト						
シャツ		1	1	1		
ジャム		1				
ジュース			1			
ショック					1	
シリーズ						
スイッチ	1	1	1			
スーツ	1	1	1			
スーパー／スーパーマーケット		1	1			1
スープ						
スカート			1			
スキー			1	1		
スケート				1		
スケジュール						
スター						
スタート						
スタイル						1
ステージ						
ステレオ	1					
ストーブ			1			
ストップ						
ストライキ／スト	1					

(table continues)

Appendix B.2. (continued)

Words	Youkoso2	Nakama2	Genki2	Inter-Japa 2	Integrated	Authentic
スピーカー						
スピーチ		1	1			
スピード	1					
スプーン						
スペイン						
スポーツ	1		1			
ズボン						
スマート						
スライド			1			
スリッパ						
セーター			1			
セックス						
セメント						
ゼロ						
センター	1				1	1
センチ						
ソース		1				
ダース						
タイ						
タイプ			1			
タイプライター	1					
タイヤ	1		1			
ダイヤル	1					
タオル		1	1			
タクシー	1	1		1		
タバコ						
ダム						
ダンス						
チーズ		1			1	
チーム					1	
チャンス						
チューリップ	1					
チョーク						
チョコレート		1	1		1	
デート			1		1	
テープ			1			
テーブル	1			1		
テープレコーダー						

(table continues)

Appendix B.2. (continued)

Words	Youkoso2	Nakama2	Genki2	Inter-Japa 2	Integrated	Authentic
テーマ					1	1
テキスト						
デザイン						1
テスト			1			
テニス			1	1		
デパート			1	1		
テレビ	1	1	1	1		
テント						
テンプラ						
テンポ						
ドア	1		1			1
ドイツ				1		
トイレ	1				1	
トップ						
トマト			1			
ドライブ	1		1			
トラック	1					
ドラマ	1					
トランプ						
ドル						
トン						
トンネル						
ナイフ		1				
ナイロン						
ニュアンス						
ニュース	1	1	1			
ネクタイ			1			
ノイローゼ						
ノート		1	1	1		
ノック		1				
パーセント						
パーティ			1			
バイオリン			1			
ハイキング						
パイプ						
バケツ						
バス	1	1	1	1	1	
パスポート	1	1				
バター		1				

(table continues)

Appendix B.2. (continued)

Words	Youkoso2	Nakama2	Genki2	Inter-Japa 2	Integrated	Authentic
バッジ		1				
バット						
バナナ						
ハム		1				
バランス						
パン		1	1			
ハンカチ		1				
パンツ			1			
ハンドバック						
ハンドル	1					
ピアノ		1	1			
ビール		1	1			
ピクニック						
ビスケット						
ピストル						
ビタミン						
ビニール						
ビル		1	1			
ビルマ						
ピン						
ピンク			1			
ファスナー						
ファン						
フィルム			1			1
ブーム						
プール			1			
フライパン		1				
ブラウス						
プラス						
プラスチック						
プラットホーム						
プラン	1					1
フランス				1		
プリント			1			
ブレーキ						
プレゼント		1	1			
プロ					1	

(table continues)

Appendix B.2. (continued)

Words	Youkoso2	Nakama2	Genki2	Inter-Japa 2	Integrated	Authentic
プログラム					1	
ページ	1		1			
ベット	1					
ベテラン						
ヘリコプター						
ベル	1					
ベルト	1					
ペン			1	1		
ペンキ						
ペンチ						
ボーイ				1	1	
ホーク						
ボート	1		1			
ボーナス	1	1	1			1
ホーム	1		1		1	1
ボール		1	1			1
ボールペン				1		
ポケット			1			
ポスター			1			
ボタン		1				
ホテル			1			
マーク						
マイク	1					
マイナス		1				
マスク						
マッチ						
マフラー	1		1			
マヨネーズ						
マンション	1		1			
ミシン	1					
ミス						
ミスプリント						
ミリ						
ミルク						
ムード						
メーター	1					
メートル		1				
メニュー			1		1	
メモ						

(table continues)

Appendix B.2. (continued)

Words	Youkoso2	Nakama2	Genki2	Inter-Japa 2	Integrated	Authentic
メロディー						
メンバー						
モーター						
モダン						
ユーモア						1
ユネスコ						
ヨーロッパ						
ラケット						
ラジオ	1		1			
ラッシュアワー					1	
ランチ						
リズム						
リットル						
レインコート						
レクリエーション				1		1
レコード						
レストラン			1	1		
レポート／リポート	1	1		1		1
レモン						
レンズ						1
ローマじ				1	1	
ロシア						
ワイシャツ						
ワット						
ワンピース						
	Youkoso2	Nakama2	Genki2	Inter-Japa 2	Integrated	Authentic
Total	55	52	79	25	28	20
	18.80%	17.80%	27.10%	8.60%	9.60%	6.80%

Appendix C.1. The Word Comparison List between Each Textbook and the 2005 Data Obtained from This Dissertation's Research Project (for 5 textbooks, Youkoso 1, Nakama 1, Genki 1, Interactive Japanese 1, and Spoken Japanese 1)

Words	Youkoso1	Nakama1	Genki1	Inter-Japa 1	Spoken 1
アイス	1				
アイテム					
アジア		1	1		
アッバス					
アップ					
アベンヌ					
アボガド					
アメリカ	1	1	1	1	1
アラブ					
イギリス	1	1	1		1
イスラエル					
イメージ					
イラク					
エネルギー					
オーヴン	1				
オーディオ					
オフィス					
オレンジ	1	1			1
カーキ					
カジュアル	1				
ガス					
カット					
カラー	1				
ギボウシ					
キモ					
キャミ					
グーディス					
クール					
クラブ	1			1	
クリーム	1	1			
ケア					
コク					
コスメ					
コメ					
シーン					
システム					
シャツ	1	1	1	1	1
シャトー					
シンプル					

(table continues)

Appendix C.1. (continued)

Words	Youkoso1	Nakama1	Genki1	Inter-Japa 1	Spoken 1
スカート	1	1			
スキン					
スタイリスト					
スタイル					
スタッフ					
スパ					
セルゲイ					
ソース	1				
タイト					
タイプ	1				
ダッチ					
チーズ	1				
チーム					
チェック					
チリ					
チンギス					
ツヤ					
ディテール					
データ					
テーマ					
デザイン	1				
デニム					
デルモ					
トマト	1	1	1		
トライ					
ドリフト					
ニコール					
ヌーベル					
ハーン					
パウダー					
パレスチナ					
パワー					
パンツ	1	1	1		
ピエール					
ピッツァ					
ピンク	1	1	1		
ファーブル					
フェミニン					
プラス					
フランス	1	1		1	

(table continues)

Appendix C.1. (continued)

Words	Youkoso1	Nakama1	Genki1	Inter-Japa 1	Spoken 1
ブランド					
プリント	1		1		
ブレンド					1
プロ					
ヘア	1				
ポール		1		1	1
ホテル	1	1	1		1
ボルドー					
ミニ					
メイク					
メキシコ		1			
メニュー	1		1		1
モア					
モデル	1	1			
モンゴル					
ヨーグルト	1				
ヨーロッパ					
ライフリー					
リゾート					
レストラン	1	1	1	1	1
レンジ	1				
ロートシルト					
ローバー					
ワイン	1	1			1
南ア					
	Youkoso1	Nakama1	Genki1	Inter-Japa 1	Spoken 1
	28	17	11	6	10
	26.90%	16.35%	10.58%	5.77%	9.62%

Appendix C.2. The Word Comparison List between Each Textbook and the 2005 Data Obtained from This Dissertation's Research Project (for 6 textbooks, Youkoso 2, Nakama 2, Genki 2, Interactive Japanese 2, Spoken Japanese 2, and Authentic Japanese)

Words	Youkoso2	Nakama2	Genki2	Inter-Japa 2	Integrated	Authentic
アイス						
アイテム						
アジア			1			
アッバス						
アップ						
アベンヌ						
アボガド						
アメリカ			1	1	1	
アラブ						
イギリス			1			
イスラエル						
イメージ						
イラク						
エネルギー		1				
オーヴン	1	1				
オーディオ						
オフィス						
オレンジ						
カーキ						
カジュアル						
ガス	1					
カット			1		1	
カラー						
ギボウシ						
キモ						
キャミ						
グーディス						
クール						
クラブ			1	1		
クリーム						
ケア						1
コク						
コスメ						
コメ						
シーン						
システム						
シャツ			1	1		
シャトー						

(table continues)

Appendix C.2. (continued)

Words	Youkoso2	Nakama2	Genki2	Inter-Japa 2	Integrated	Authentic
シンプル						
スカート			1			
スキン						
スタイリスト		1				
スタイル						
スタッフ						
スパ						
セルゲイ						
ソース		1				
タイト						
タイプ	1		1			
ダッチ						
チーズ		1			1	
チーム					1	
チェック	1	1	1			1
チリ						
チンギス						
ツヤ						
ディテール						
データ						
テーマ					1	1
デザイン						1
デニム						
デルモ						
トマト			1			
トライ						
ドリフト						
ニコール						
ヌーベル						
ハーン						
パウダー						
パレスチナ						
パワー						
パンツ			1			
ピエール						
ピッツァ						
ピンク			1			
ファーブル						
フェミニン						
プラス						

(table continues)

Appendix C.2. (continued)

Words	Youkoso2	Nakama2	Genki2	Inter-Japa 2	Integrated	Authentic
フランス				1		
ブランド						
プリント			1			
ブレンド						
プロ						
ヘア	1					
ポール		1		1		1
ホテル			1			
ボルドー						
ミニ						
メイク						
メキシコ						
メニュー			1		1	
モア						
モデル		1			1	
モンゴル						
ヨーグルト						
ヨーロッパ						
ライフリー						
リゾート	1					
レストラン			1	1		
レンジ	1	1				
ロートシルト						
ローバー						
ワイン		1		1	1	
南ア						
	Youkoso2	Nakama2	Genki2	Inter-Japa 2	Integrated	Authentic
	7	10	16	7	8	5
	6.73%	9.62%	15.38%	6.73%	7.69%	4.81%

Appendix D: *Katakana* Loanwords Appearing in *Genki 1*

Words	The number of the word in the textbook	How many different types of words appear in the textbook
アイスクリーム		
アイスクリーム		
アイスクリーム		
アイスクリーム		
アイスクリーム	5	1
アイスコーヒー	1	1
アイスティー	1	1
アウトドア		
アウトドア		
アウトドア	3	1
アジア	1	1
アップルパイ	1	1
アパート		
アパート		
アパート	3	1
アムステルダム	1	1
アメリカ		
アメリカ		
アメリカ		
アメリカ		
アメリカ		
アメリカ		
アメリカ		
アメリカ		
アメリカ		
アメリカ		
アメリカ		
アメリカ		
アメリカ		
アメリカ		
アメリカ	16	1
アリゾナ		
アリゾナ		
アリゾナ		
アリゾナ		
アリゾナ		
アリゾナ	6	1
アルゼンチン	1	1
アルデンテ	1	1

(table continues)

Appendix D (continued)

Words	The number of the word in the textbook	How many different types of words appear in the textbook
アルバイト		
アルバイト		
アルバイト		
アルバイト		
アルバイト	5	1
アレルギー		
アレルギー	2	1
アンケート		
アンケート		
アンケート		
アンケート		
アンケート		
アンケート		
アンケート	7	1
アントニオ		
アントニオ		
アントニオ		
アントニオ	4	1
イギリス		
イギリス		
イギリス		
イギリス		
イギリス		
イギリス		
イギリス		
イギリス	8	1
イタリア		
イタリア		
イタリア	3	1
イタリアン	1	1
インド	1	1
インドネシア		
インドネシア	2	1
ウィーン		
ウィーン		
ウィーン		
ウィーン	4	1

(table continues)

Appendix D (continued)

Words	The number of the word in the textbook	How many different types of words appear in the textbook
ウエートレス		
ウエートレス		
ウエートレス		
ウエートレス	4	1
エアログラム	1	1
エアロビクス	1	1
エクアドル	1	1
エジプト	1	1
エベレスト	1	1
エルエル		
エルエル		
エルエル		
エルエル		
エルエル		
エルエル	6	1
エルビス		
エルビス	2	1
オーストラリア		
オーストラリア		
オーストラリア		
オーストラリア		
オーストラリア		
オーストラリア		
オーストラリア		
オーストラリア	8	1
オタワ	1	1
オランダ		
オランダ	2	1
オレンジジュース	1	1
カーテン	1	1
カイロ	1	1
カナダ		
カナダ		
カナダ	3	1
カフェ		
カフェ		
カフェ	3	1
カメラ		
カメラ		
カメラ	3	1

(table continues)

Appendix D (continued)

Words	The number of the word in the textbook	How many different types of words appear in the textbook
カラオケ		
カラオケ		
カラオケ		
カラオケ		
カラオケ	5	1
カレー		
カレー	2	1
カレーラス	1	1
カレン		
カレン		
カレン		
カレン		
カレン	5	1
ギター		
ギター		
ギター		
ギター		
ギター	5	1
キム		
キム		
キム	3	1
キャシー	1	1
キャンプ	1	1
キャンベラ	1	1
クアラルンプール	1	1
クラシック		
クラシック		
クラシック	3	1
クラス		
クラス		
クラス		
クラス		
クラス		
クラス		
クラス		
クラス		

(table continues)

Appendix D (continued)

Words	The number of the word in the textbook	How many different types of words appear in the textbook
クラス		
クラス		
クラス		
クラス		
クラス		
クラス		
クラス		
クラス		
クラス		
クラス		
クラス		
クラス		
クラス		
クラス		
クラス		
クラス		
クラス		
クラス		
クラス		
クラス		
クラス		
クラス		
クラス	30	1
クラブ		
クラブ	2	1
グリーン		
グリーン	2	1
クリスマス	1	1
グレー	1	1
グレートバリアリーフ	1	1
クレジットカード		
クレジットカード	2	1
ケアンズ		
ケアンズ	2	1
ケーキ		
ケーキ		
ケーキ		
ケーキ		
ケーキ	5	1
ケシゴム	1	1

(table continues)

Appendix D (continued)

Words	The number of the word in the textbook	How many different types of words appear in the textbook
コーヒー		
コーヒー		
コーヒー		

Appendix D (continued)

Words	The number of the word in the textbook	How many different types of words appear in the textbook
コンサート		
コンサート		
コンサート		
コンサート	7	1
コンビニ		
コンビニ	2	1
コンピューター		
コンピューター		
コンピューター		
コンピューター		
コンピューター		
コンピューター	6	1
サーフィン		
サーフィン	2	1
サッカー		
サッカー		
サッカー	3	1
サボル	1	1
サラダ		
サラダ		
サラダ		
サラダ	4	1
サンドイッチ		
サンドイッチ	2	1
ジーンズ		
ジーンズ		
ジーンズ		
ジーンズ	4	1
シェイク	1	1
シェフ	1	1
シナトラ	1	1
ジャーナリスト	1	1
ジャクソン		
ジャクソン		
ジャクソン	3	1
ジャズ	1	1

(table continues)

Appendix D (continued)

Words	The number of the word in the textbook	How many different types of words appear in the textbook
シャツ		
シャツ		
シャツ		
シャツ		
シャツ		
シャツ		
シャツ	7	1
ジュース		
ジュース		
ジュース	3	1
シュワルツェネッガー		
シュワルツェネッガー		
シュワルツェネッガー	3	1
ジョーダン		
ジョーダン	2	1
ジョン		
ジョン		
ジョン		
ジョン		
ジョン		
ジョン		
ジョン		
ジョン		
ジョン		
ジョン		
ジョン	11	1
シルバー	1	1
シンガポール		
シンガポール	2	1
スー		
スー		
スー		
スー		
スー		
スー		
スー		
スー		

(table continues)

Appendix D (continued)

Words	The number of the word in the textbook	How many different types of words appear in the textbook
スー		
スー		
スー		
スー		
スー		
スー		
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スー		

(table continues)

Appendix D (continued)

Words	The number of the word in the textbook	How many different types of words appear in the textbook
スー		
スー	48	1
スウェーデン		
スウェーデン		
スウェーデン		
スウェーデン		
スウェーデン		
スウェーデン		
スウェーデン	7	1
スーパー		
スーパー		
スーパー		
スーパー		
スーパー		
スーパー		
スーパー	7	1
スキー		
スキー		
スキー	3	1
スケート	1	1
スター	1	1
スタローン	1	1
ステーキ		
ステーキ	2	1
ストックホルム	1	1
ストライザンド	1	1
ストレス		
ストレス		
ストレス		
ストレス		
ストレス	5	1
スパゲッティ		
スパゲッティ		
スパゲッティ	3	1
スペイン	1	1
スペシャル	1	1
スポーツ		
スポーツ		
スポーツ		

(table continues)

Appendix D (continued)

Words	The number of the word in the textbook	How many different types of words appear in the textbook
スポーツ		
スポーツ		
スポーツ		
スポーツ		
スポーツ		
スポーツ		
スポーツ		
スポーツ		
スポーツ		
スポーツ		
スポーツ		
スポーツ	15	1
スミス		
スミス		
スミス	3	1
スライド	1	1
セーター		
セーター		
セーター		
セーター		
セーター	5	1
セール	1	1
セット		
セット	2	1
ゼロ		
ゼロ	2	1
ソウル		
ソウル		
ソウル		
ソウル	4	1
タイ	1	1
ダイエット		
ダイエット	2	1
タクシー	1	1
ダブルバーガー	1	1
チーズバーガー	1	1
チェコ	1	1

(table continues)

Appendix D (continued)

Words	The number of the word in the textbook	How many different types of words appear in the textbook
チキンバーガー	1	1
チョコレート	1	1
チョコレートパフェ	1	1
ディスコ		
ディスコ		
ディスコ	3	1
テイラー	1	1
デート		
デート		
デート		
デート		
デート		
デート		
デート		
デート		
デート		
デート	10	1
テープ		
テープ		
テープ		
テープ		
テープ		
テープ		
テープ		
テープ		
テープ	9	1
テーブル	1	1
テスト		
テスト		
テスト		
テスト		
テスト		
テスト		
テスト		
テスト		
テスト		

(table continues)

Appendix D (continued)

Words	The number of the word in the textbook	How many different types of words appear in the textbook
テスト		
テスト		
テスト		
テスト		
テスト		
テスト		
テスト	17	1
テニス		
テニス		
テニス		
テニス		
テニス		
テニス		
テニス		
テニス		
テニス		
テニス		
テニス		
テニス		
テニス		
テニス		
テニス		
テニス		
テニス	17	1
デパート		
デパート		
デパート		
デパート		
デパート		
デパート		
デパート		
デパート		
デパート		
デパート		
デパート		
デパート		
デパート	13	1
テリヤキバーガー	1	1

(table continues)

Appendix D (continued)

Words	The number of the word in the textbook	How many different types of words appear in the textbook
テレビ		
テレビ		
テレビ		

Appendix D (continued)

Words	The number of the word in the textbook	How many different types of words appear in the textbook
テレビ		
テレビ		
テレビ		
テレビ	41	1
テレビゲーム		
テレビゲーム		
テレビゲーム	3	1
ドア		
ドア	2	1
ドイツ	1	1
トイレ		
トイレ		
トイレ		
トイレ		
トイレ	5	1
トースト	1	1
トマト		
トマト	2	1
ドミンゴ	1	1
トム		
トム		
トム		
トム		
トム	5	1
ドライブ		
ドライブ		
ドライブ		
ドライブ		
ドライブ		
ドライブ		
ドライブ		
ドライブ		
ドライブ		
ドライブ	10	1
トランプ	1	1
トレーナー		
トレーナー		

(table continues)

Appendix D (continued)

Words	The number of the word in the textbook	How many different types of words appear in the textbook
トレーナー		
トレーナー		
トレーナー	5	1
ニュージーランド	1	1
ニューデリー	1	1
ニューヨーク		
ニューヨーク		
ニューヨーク		
ニューヨーク	4	1
ネガ	1	1
ノート		
ノート		
ノート		
ノート		
ノート		
ノート		
ノート		
ノート		
ノート		
ノート		
ノート		
ノート	12	1
ハーゲンダッツ		
ハーゲンダッツ		
ハーゲンダッツ	3	1
パーティー		
パーティー		
パーティー		
パーティー		
パーティー		
パーティー		
パーティー		
パーティー		
パーティー		
パーティー	10	1
ハート		
ハート		

(table continues)

Appendix D (continued)

Words	The number of the word in the textbook	How many different types of words appear in the textbook
ハート		
ハート	4	1
ハードロック	1	1
バーブラ	1	1
バーベキュー		
バーベキュー		
バーベキュー		
バーベキュー	4	1
バス		
バス		
バス		
バス		
バス		
バス		
バス		
バス		
バス		
バス		
バス		
バス		
バス		
バス		
バス		
バス		
バス		
バス		
バス		
バス		
バス	22	1
バスケット		
バスケット		
バスケット		
バスケット	4	1
パノラマ	1	1
パバロッティ		
パバロッティ	2	1
ハロウィーン		
ハロウィーン	2	1

(table continues)

Appendix D (continued)

Words	The number of the word in the textbook	How many different types of words appear in the textbook
ハワイ		
ハワイ		
ハワイ	3	1
パン		
パン		
パン	3	1
ハンカチ	1	1
ハンサム		
ハンサム		
ハンサム		
ハンサム	4	1
パンツ		
パンツ	2	1
バンド		
バンド		
バンド	3	1
ハンバーガー		
ハンバーガー		
ハンバーガー		
ハンバーガー		
ハンバーガー		
ハンバーガー		
ハンバーガー		
ハンバーガー		
ハンバーガー		
ハンバーガー		
ハンバーガー	11	1
ピアノ		
ピアノ		
ピアノ		
ピアノ		
ピアノ	5	1
ビール		
ビール	2	1
ピザ		
ピザ		
ピザ		
ピザ		
ピザ	5	1

(table continues)

Appendix D (continued)

Words	The number of the word in the textbook	How many different types of words appear in the textbook
ビジネス		
ビジネス		
ビジネス		
ビジネス	4	1
ビデオ		
ビデオ		
ビデオ	3	1
ビル	1	1
ピンク	1	1
フィルム	1	1
ブエノスアイレス	1	1
フライドポテト		
フライドポテト	2	1
ブラジル	1	1
フランス		
フランス		
フランス		
フランス		
フランス		
フランス	6	1
フリーマーケット	1	1
プリント	1	1
プレスリー		
プレスリー	2	1
プレゼント		
プレゼント		
プレゼント	3	1
プログラム	1	1
ページ		
ページ	2	1
ベトナム	1	1
ペン		
ペン		
ペン		
ペン		
ペン		
ペン		
ペン		

(table continues)

Appendix D (continued)

Words	The number of the word in the textbook	How many different types of words appear in the textbook
ペン		
ペン		
ペン	10	1
ホーム	1	1
ホームシック		
ホームシック		
ホームシック	3	1
ホームステイ		
ホームステイ		
ホームステイ		
ホームステイ	4	1
ホール	1	1
ホストファミリー		
ホストファミリー		
ホストファミリー		
ホストファミリー		
ホストファミリー		
ホストファミリー		
ホストファミリー		
ホストファミリー		
ホストファミリー	9	1
ボスニア	1	1
ホットコーヒー	1	1
ホットティー	1	1
ホテル		
ホテル		
ホテル		
ホテル		
ホテル		
ホテル		
ホテル		
ホテル	8	1
マーク		
マーク		
マーク		
マーク	4	1
マイク	1	1
マイケル		
マイケル		

(table continues)

Appendix D (continued)

Words	The number of the word in the textbook	How many different types of words appear in the textbook
マイケル		
マイケル	4	1
マウス	1	1
マクドナルド		
マクドナルド		
マクドナルド		
マクドナルド		
マクドナルド		
マクドナルド		
マクドナルド	7	1
マドンナ		
マドンナ	2	1
マレーシア	1	1
マンジャーレ		
マンジャーレ		
マンジャーレ		
マンジャーレ		
マンジャーレ		
マンジャーレ		
マンジャーレ	7	1
マンション	1	1
ミシェル	1	1
ミッキー	1	1
ミュージカル	1	1
ミラー	1	1
ミルク	1	1
メアリー		
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(table continues)

Appendix D (continued)

Words	The number of the word in the textbook	How many different types of words appear in the textbook
メアリー		
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Appendix D (continued)

Words	The number of the word in the textbook	How many different types of words appear in the textbook
メアリー		
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Appendix D (continued)

Words	The number of the word in the textbook	How many different types of words appear in the textbook
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Appendix D (continued)

Words	The number of the word in the textbook	How many different types of words appear in the textbook
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Appendix D (continued)

Words	The number of the word in the textbook	How many different types of words appear in the textbook
メール	1	1
メキシコ	1	1
メニュー		
メニュー		
メニュー	3	1
メモ	1	1
ヤンキース	1	1
ヨーロッパ	1	1
ラーメン	1	1
ラケット	1	1
ラジオ	1	1
ラブレター	1	1
ランチ	1	1
リー		
リー		
リー		
リー		
リー		
リー	6	1
ルームメート		
ルームメート		
ルームメート		
ルームメート	4	1
ルワンダ	1	1
レストラン		
レストラン		
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(table continues)

Appendix D (continued)

Words	The number of the word in the textbook	How many different types of words appear in the textbook
レストラン		
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レストラン		
レストラン	20	1
レポート	1	1
レモンティー	1	1
レントゲン	1	1
ロイヤル	1	1
ロック	1	1
ロバート		
ロバート		
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(table continues)

Appendix D (continued)

Words	The number of the word in the textbook	How many different types of words appear in the textbook
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ロバート		
ロバート		
ロバート	59	1
ロンドン	1	1
ワイフ	1	1
ワイン		
ワイン	2	1
ワシントン	1	1
Total	1069	230

Appendix E: Retrieving English Original Words from *Katakana* Loanwords by Transliteration Rules

Applying Rules	**Words**
1) Katakana to Roomaji 2) Japanese letters to phonemes 3) Delete the first part of a geminate consonant 4) /ru/ → /l/ at the end of a word 5) Remove inserted vowels at the end of a word 6) Remove other inserted vowels in a word 7) Japanese C phonemes to English C phonemes 8) English C phonemes to spelling 9) Japanese V phonemes to English V phonemes /a:/ → Vr 10) English V phonemes to spelling 11) English word (candidates)	エレベーター e re be: ta: ɛrɛbɛ:ta: ɛ r/l ɛ b/v ɛ: ta: ɛ r/l ɛ b/v ɛ: ta: ɛ ɛ e: ar/ær e e a ar/or erebatar, elebator, elevatar, **elevator**
1) Katakana to Roomaji 2) Japanese letters to phonemes 3) Delete the first part of a geminate consonant 4) /ru/ → /l/ at the end of a word 5) Remove inserted vowels at the end of a word 6) Remove other inserted vowels in a word 7) Japanese C phonemes to English C phonemes 8) English C phonemes to spelling 9) Japanese V phonemes to English V phonemes 10) English V phonemes to spelling 11) English word (candidates)	シュート shu: to ʃɯ: to ʃɯ: to ʃɯ: t sh/si/ci t u: oo **shoot**
1) Katakana to Roomaji 2) Japanese letters to phonemes 3) Delete the first part of a geminate consonant 4) /ru/ → /l/ at the end of a word 5) Remove inserted vowels at the end of a word 6) Remove other inserted vowels in a word 7) Japanese C phonemes to English C phonemes 8) English C phonemes to spelling 9) Japanese V phonemes to English V phonemes 10) English V phonemes to spelling 11) English word (candidates)	サンダル sa n da ru sandarɯ sa n da l sa n da l a/æ/ɔ/ʌ a/æ/ɔ/ʌ a/o/u a/o/u **sandal**, sandol, sondul, sondol, sundal, sundol, etc.

(table continues)

Appendix E (continued)

Applying Rules	**Words**
1) Katakana to Roomaji 2) Japanese letters to phonemes 3) Delete the first part of a geminate consonant 4) /ru/ → /l/ at the end of a word 5) Remove inserted vowels at the end of a word 6) Remove other inserted vowels in a word (1) /tC/, /dC/ → /toC/, /doC/ (2) /C/ → /Cu/ / elsewhere 7) Japanese C phonemes to English C phonemes 8) English C phonemes to spelling 9) Japanese V phonemes to English V phonemes 10) English V phonemes to spelling 11) English word (candidates)	ストリクト su to ri ku to sɯ to ri kɯ to sɯ to ri kɯ t sɯ to ri kɯ t s t ri k t s t r/l k t s t r/l c/ck t ɪ i/e **strict**, strect, strickt, streckt
1) Katakana to Roomaji 2) Japanese letters to phonemes 3) Delete the first part of a geminate consonant 4) /ru/ → /l/ at the end of a word 5) Remove inserted vowels at the end of a word 6) Remove other inserted vowels in a word 7) Japanese C phonemes to English C phonemes 8) English C phonemes to spelling 9) Japanese V phonemes to English V phonemes 10) English V phonemes to spelling 11) English word (candidates)	チョコレート cho ko re: to tʃo ko rɛ: to tʃo ko rɛ: to tʃo ko rɛ: t tʃo ko r/l ɛ: t cho c/cko r/l ɛ: t ɔ/ou ɔ/ou e: o/oa o/oa a chocorat, **chocolat(e)**, chocoalat, etc.
1) Katakana to Roomaji 2) Japanese letters to phonemes 3) Delete the first part of a geminate consonant 4) /ru/ → /l/ at the end of a word 5) Remove inserted vowels at the end of a word 6) Remove other inserted vowels in a word (1) /tC/, /dC/ → /toC/, /doC/ (2) /C/ → /Cu/ / elsewhere 7) Japanese C phonemes to English C phonemes 8) English C phonemes to spelling 9) Japanese V phonemes to English V phonemes 10) English V phonemes to spelling 11) English word (candidates)	ナショナリズム nashonarizumu naʃonarizɯmɯ naʃonarizɯmɯ naʃonarizɯm na ʃo na r/li z m na ti o/ci o na r/li s m æ/a/ɔ/ʌ ɔ/ou æ/a/ɔ/ʌ ɪ a/o/u o/oa a/o/u i/e nationarism, **nationalism**, nacionalism, nacionorism, etc.

(table continues)

Appendix E (continued)

Applying Rules	**Words**
1) Katakana to Roomaji 2) Japanese letters to phonemes 3) Delete the first part of a geminate consonant 4) /ru/ → /l/ at the end of a word 5) Remove inserted vowels at the end of a word 6) Remove other inserted vowels in a word 7) Japanese C phonemes to English C phonemes 8) English C phonemes to spelling 9) Japanese V phonemes to English V phonemes 10) English V phonemes to spelling 11) English word (candidates) 12) Add geminates	オフィシャル ofisyaru oɸiʃarɯ oɸiʃal o fi ʃa l o fi si a/ci a l ɔ/ou ɪ æ/a/ɔ/ʌ o/oa i/e a/o/u ofisial, **oficial**, ofesiol, etc. **official**
1) Katakana to Roomaji 2) Japanese letters to phonemes 3) Delete the first part of a geminate consonant 4) /ru/ → /l/ at the end of a word 5) Remove inserted vowels at the end of a word 6) Remove other inserted vowels in a word (1) /tC/, /dC/ → /toC/, /doC/ (2) /C/ → /Cu/ / elsewhere 7) Japanese C phonemes to English C phonemes 8) English C phonemes to spelling 9) Japanese V phonemes to English V phonemes 10) English V phonemes to spelling 11) English word (candidates)	ジャーナリスト ja:narisuto ʤa:narisɯto ʤa:narisɯt ʤa:narisɯt ʤa:narist ʤa: na r/li s t j a: na r/li s t ar/ær æ/a/ɔ/ʌ ɪ ar/or a/o/u i/e jarnarist, jornarist, jornorist, **jornalist**, jarnulist, etc. **journalist**

(table continues)

Appendix E (continued)

Applying Rules	**Words**
	ディベロップメント
1) Katakana to Roomaji	diberoppemento
2) Japanese letters to phonemes	dibɛroppɯmɛnto
3) Delete the first part of a geminate consonant	dibɛropɯmɛnto
4) /ru/ → /l/ at the end of a word	
5) Remove inserted vowels at the end of a word	dibɛropɯmɛnto
6) Remove other inserted vowels in a word	dibɛropɯmɛnt
(1) /tC/, /dC/ → /toC/, /doC/	
(2) /C/ → /Cu/ / elsewhere	dibɛropmɛnt
7) Japanese C phonemes to English C phonemes	di v/bɛ r/lo p mɛ n t
8) English C phonemes to spelling	
9) Japanese V phonemes to English V phonemes	ɪ ɛ ɔ/ou ɛ
10) English V phonemes to spelling	i/e e/ea o/oa e/ea
11) English word (candidates)	diveropment, divelopment, **development**, etc. **develop(e)ment**,