Kanji Selection and Ordering in Beginner-Level Japanese Language Textbooks

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Abstract

This study investigated the selection and ordering of kanji in four beginner-level Japanese language textbooks used in Japanese as a foreign language courses at universities both within Japan and outside the country. The purpose was to ascertain which kanji are selected for inclusion and the types of kanji ordering strategies employed. Kanji included in beginner-level Japanese language textbooks were categorized according to multiple criteria to determine whether they are systematically arranged in a particular order. The study found that each textbook's selection of kanji was different, however, kanji orders in all four textbooks closely resembled each other, with a similar ratio of kanji falling under the same ordering categories. In particular, all four textbooks adopted context and kanji compounds as their ordering strategies, and component-based ordering strategies were not present in the textbooks. This study highlighted that, in terms of kanji selection and ordering, the predominant pedagogical approach to kanji in beginner-level Japanese language textbooks is to rely on context and kanji compound-based ordering strategies. While this approach offers many benefits, we argue that a more multi-faceted approach which exposes learners to an array of different strategies including identifying kanji components, may promote optimal outcomes for kanji learning.

Keywords: kanji, kanji orders, Japanese language textbooks, kanji learning and teaching

Introduction

The difficulty of learning Japanese is believed to be largely due to the complexity of its written language, especially the kanji (Bourke, 1996; Gamage, 2003; Mori, 1999). Kanji present a multitude of difficulties for learners of Japanese as a foreign language (JFL). For example, to achieve fluency in the written language requires JFL learners to remember the 2136 *jōyō* kanji, prescribed by the Japanese Ministry of Education as the "regular-use kanji" (Conning, 2013). Moreover, due to the adaptation of kanji from the Chinese language to the Japanese language, most kanji have a Chinese reading (*on-yomi*) and a Japanese reading (*kun-yomi*). Kanji also present several other challenges, such as the polysemous nature of kanji (Toyoda, 2007), memory and retrieval (Chikamatsu, 2005), typological differences (Tollini, 1994), and monosyballic and polysyballic kanji (Rose, 2019). Considering the complex nature of kanji and the difficulty they present to JFL learners, it is not surprising that kanji pedagogy has been the subject of much scholarly attention.

Kanji learning strategies have attracted significant attention from scholars (Bourke, 1996; Gamage, 2003; Rose, 2013). Bourke (1996) established a Strategy Inventory for Learning Kanji (SILK), a significant improvement on the Strategy Inventory for Language Learning (SILL) (Oxford, 1990) as it applied learning strategies specific to kanji. SILK provides a list of 56 possible ways of processing kanji and managing kanji learning. As noted by Shimizu and Green (2002), however, conventional strategies for learning kanji often include rote-learning, mnemonic, and contextual strategies. Rote-learning uses repeated writing as a strategy to memorize kanji. Mnemonics uses keywords to represent individual components of a kanji, which can be combined into a sentence as a useful tool to help memorize kanji. Contextual strategies approach kanji by studying them in context rather than in isolation.

Despite the number of kanji learning strategies available to JFL learners, there is a tendency for some JFL learners and teachers to rely on one strategy. For example, Mori and Shimizu (2008) found that L2 learners of Japanese regarded rote-learning as the most effective learning strategy. Moreover, Shimizu and Green (2002) found that some L2 Japanese teachers also believed rote-learning to be the most effective strategy. Teachers' beliefs in relation to learning kanji are significant because, as Dewey (2004) notes, teachers attitudes toward learning strategies can influence students' attitudes. The evidence suggests, however, that the most successful students in kanji recall tasks are the ones who use the highest number and widest variety of strategies (Bourke, 1996). Moreover, as Rose (2019) noted, strategy use is highly dependent on individual preference. More important than determining which strategy is the most effective, therefore, is raising JFL learner's awareness of the variety of kanji learning strategies at their disposal, and encouraging learners to utilize a wide variety of strategies.

The pedagogical approach to kanji adopted in Japanese language textbooks facilitates specific kanji learning strategies. With the increase in popularity of Japanese language study in the 1980s and 1990s, a number of books emerged promoting mnemonics as an effective kanji learning strategy (Rose, 2013). Most of these books were designed specifically for kanji self-study as they did not teach other aspects of the Japanese language. Furthermore, many of these textbooks focused on kanji components as a means to facilitating a mnemonic kanji learning strategy. Most notably, De Roo (1982), Heisig (2001) Kaiho (1984), Takagi (1995), and Takebe (1989) all encouraged component-based approaches. Mnemonics have proven to positively influence students' perceptions of kanji (Manalo et al., 2004). However, Rose (2013) found that while mnemonic strategies did provide benefits, "an overuse of mnemonic strategies caused limitations in learner recall of kanji due to the multiplicity of kanji readings" (Rose 2013, p. 989).

On the other hand, beginner-level Japanese language textbooks which teach all four language skills typically adopt a different pedagogical approach to kanji than self-study textbooks. However, without further investigation, the pedagogical approach to kanji in these textbooks is unclear and can appear arbitrary.

Literature Review

Previous research on Japanese language textbooks has contributed to our understanding of kanji pedagogy. Kawamura (1999) conducted a study in which a kanji checker was used to

determine the difficulty of kanji in a text analysis. Kawamura's study determined the difficulty of kanji introduced in several textbooks by analysing the number of kanji in the textbooks and the percentage which fall into the respective levels of the Japanese Language Proficiency Test (JLPT). However, Kawamura's study is based on the assumption that the respective levels of the JLPT are an accurate gauge of the difficulty of the kanji. The present research also analyzes the respective JLPT levels of kanji selected for inclusion in the textbooks, but goes beyond that to analyze the equivalent elementary grade and classification of the kanji.

Hayashi (2011) conducted a textbook analysis which focused on the kanji taught in intermediate-level Japanese textbooks. This study found that explanations of kanji in intermediate textbooks focused on the meaning and usage of kanji. However, the graphemic structure of kanji was largely ignored in intermediate textbooks. Hayashi argued that the absence of focus on graphemic structure was because it is assumed that intermediate students would have a sufficient foundation in kanji.

Richmond (2005) evaluated a selection of popular JFL kanji textbooks and proposed a number of suggestions for pedagogical improvements. Richmond analyzed the textbooks from the perspective of a number of different criteria, including kanji order. This current study, therefore, bears some similarity to Richmond's. However, Richmond's analysis was of self-study kanji textbooks, that is, textbooks solely dedicated to teaching kanji and therefore different from textbooks that incorporate other language skills such as speaking and listening. Richmond's study is a valuable addition to the literature on JFL kanji education. In particular, Richmond challenges many assumptions in relation to JFL kanji education, such as the assumption that JFL kanji learners require specialized methods to master kanji.

Riekkinen (2015) conducted a content analysis of textbooks used for studies at Stockholm University. The researcher analyzed four different areas of the textbooks including selection and kanji order. Rikkinen's analysis of kanji order was, however, limited to an analysis of kanji introduced which contain components not yet taught. Riekkinen's rationale for this approach was based on findings from a study by Maehara and Fujishiro (2007) which found that non-kanji background learners of Japanese required instruction in kanji components to facilitate their kanji learning. Riekkinen concludes that, in the textbooks analyzed, there is a low priority on teaching kanji that are often used as components. While many kanji that function as components are not commonly used kanji, Riekkinen suggests a greater balance between kanji components and other kanji.

Although somewhat scarce, previous studies on kanji in textbooks have made a valuable contribution to the literature. Nevertheless, the analysis of kanji selection and order in textbooks has been limited. Richmond limited his analysis to self-study textbooks, which tend to adopt a kanji order consistent with the *Monbukagakusho*'s order, or a component-based order coupled with mnemonic learning strategies. Riekkinen examined kanji order in respect to components without considering the presence of other kanji orders such as etymological and context-based kanji orders.

The present study aims to build on previous research, as well as to investigate kanji selection and order from more varied criteria. The value of this is a clearer understanding of pedagogical strategies of kanji learning for JFL students. In this paper, a pedagogical analysis is conducted in which four Japanese language commercial textbooks used in beginner courses at universities are examined and compared. The purpose is to ascertain the kanji selected for

inclusion in these textbooks and the learning and instructional strategies which they facilitate.

To that end, this paper seeks to contribute to the overarching question: How can pedagogical strategies of kanji learning be optimized for JFL students? Our hypothesis is that component-based ordering patterns will be underutilized, and we argue that, while current Japanese language textbooks offer a practical means for teaching kanji, a more multi-faceted approach to kanji instruction may improve kanji learning.

The study aimed to explore the following research questions:

1. Which kanji are frequently selected for inclusion in beginner-level Japanese language textbooks?
2. Which kanji ordering strategies are present in beginner-level Japanese language textbooks?

Methods
Materials

Four beginner-level Japanese language textbooks were selected for this study. Four comprehensive textbooks: *Genki*, *Nakama*, *Yookoso*, and *Minna no Nihongo*, were chosen because they all include sections that teach kanji and are textbooks used in JFL courses at universities both within Japan and outside the country. Beginner-level textbooks were selected so that a comparison could be made of the approaches to ordering kanji in textbooks targeting JFL learners who had no previous kanji knowledge. Table 1 outlines the details of the Japanese language textbooks selected for analysis.

Table 1: Textbook Analysis Materials

Title	Author(s)	Publisher	Year
Genki 1: An Integrated Course in Elementary Japanese (2nd ed.)	Banno, E. et al.	The Japan Times	2011
Minna no Nihongo: Kanji I	Nishiguchi, K. et al.	3A Corporation	2000
Yookoso!: An Invitation to Contemporary Japanese (3rd ed.)	Tohsaku, Y.	McGraw-Hill	2006
Nakama 1: Japanese communication, culture, context	Hatasa, Y. A. et al.	Houghton Mifflin	2009

Procedures

The research was conducted in two stages. Firstly, the kanji selected for inclusion in each textbook was analyzed. The purpose of this stage was to determine the similarities and differences in the kanji included in the textbooks. Furthermore, characteristics of kanji selected for inclusion in the textbooks were analyzed and compared. Secondly, a unique set of criteria based on various kanji properties was developed to determine the presence of kanji ordering patterns. That is, consecutively introduced kanji were analyzed to determine if they shared any common properties that would indicate the presence of a relationship which could be interpreted as an ordering pattern. A kanji ordering pattern was determined to be present when

at least two consecutive kanji fulfilled the kanji ordering pattern criteria, as outlined in Table 2.

Table 2: Kanji Ordering Patterns

Criterion	Description
Pictographs (Etymology)	When two or more kanji which can be classified as pictographs are introduced consecutively, an etymological order was determined to be present, e.g., 木、川 (tree, river)
Opposites	Kanji of opposite meanings, e.g., 上、下 (up, down).
Mutual Components	When two or more kanji are introduced consecutively with a shared component, e.g., 王、玉、宝、珠、現、狂、皇. Note that the position of the mutual component can move in its relative position to the rest of the character, and this component may or may not function as the kanji radical.
Context-based Order	When two or more kanji with a shared contextual meaning are introduced consecutively, e.g., 手、足、首、頭、耳、鼻、口、 (hand, foot, neck, head, ear, nose, mouth).
Kanji Compounds	When two consecutive kanji introduced can form a kanji compound this order will be determined to be present, e.g., 先、生 　（先生/teacher）.
Components Based	When two separate kanji are combined to make a new kanji, e.g., （田、力、男）、（女、子、好).
Other Orders	When two or more kanji introduced consecutively have some relationship not covered in the above categories they will fall within this category.

*Exclusion: In order to ensure that the analysis of orders was consistent throughout, two consecutive kanji appearing with a number in the form of counting (e.g., 「三年」 "three years"), as well as people and place names, (e.g., 「山口」 "Yamaguchi") are not recognized as a kanji order.

Analysis

Part 1: Kanji Characteristics

In Part 1 of the analysis, the emphasis was on the selection of the kanji in each textbook and on the similarities and differences of the kanji chosen for each textbook. In this stage of the analysis, the following steps were implemented. First, Kanji included in the textbooks were compared to see which kanji were introduced in which textbooks. For example, the kanji 先 was found to be present in all four textbooks, while the kanji 「文」 was present in only one textbook. Next, Kanji were analyzed using an online kanji database (Tamaoka et al., 2017). The new 2136 Japanese jōyō kanji web-accessible database, and the respective grade in which the kanji are taught in Japanese schools, JLPT level, and kanji classification for each kanji, were analyzed and compared. The kanji classification consisted of classifying the type of kanji

as either simple ideograph, loan, pictograph, semantic composite, or semantic-phonetic composite, based on the Rikusho (六書) system. Rikusho is an overview of the six ways in which kanji originated (see Appendix). In addition to the classifications used here, there is another category of the Rikusho system known as derivative characters. As none of the kanji in the textbooks fell within this category, it was excluded from the study.

The online program used to analyze the kanji characteristics provides data based on the old JLPT levels, with level 4 being the most basic through to level 1 being the most advanced. The JLPT was revised in 2010 and the current JLPT has five levels: N1, N2, N3, N4, and N5. Nevertheless, the kanji based on the old JLPT still provide a good indication of how the kanji are divided among the different levels, and are relevant because, other than Genki, all the textbooks were published prior to the revision of the JLPT. Moreover, since 2010 the JLPT has not published an official kanji list for the respective levels, making the current analysis impossible using the current JLPT.

Part 2: Kanji Ordering Patterns.

For the analysis of the order of kanji in the textbooks, no pre-existing method of analysis was available, and therefore an approach was formulated to identify the presence of relationships between consecutively introduced kanji, referred to here as "kanji orders." A particular order was deemed to be present when it met one of the criteria outlined in Table 2.

Results

Part 1: Kanji Selection

A comparison of the kanji included in each textbook was undertaken. From this comparison, the number of kanji common to all four, three, two, or unique to one textbook(s) could be determined. In total, there were 662 kanji (token frequency) contained within the four textbooks: *Genki* with 145; *Minna no Nihongo* with 220; *Yookoso* with 170; and *Nakama* with 127. The frequency of shared type was 268. The results from this comparison are illustrated in Table 3.

Table 3: Shared Kanji Across Textbooks

Number of Textbooks	Number of Shared Kanji
Unique to one textbook only	83
Shared across two textbooks	57
Shared across three textbooks	47
Shared across all four textbooks	81
Total	**268**

Overall, 83 kanji were unique to one textbook, 57 kanji were included in two textbooks, 47 kanji were included in three textbooks, and 81 kanji were included in all four textbooks. The next sections reveal the following information about the four textbooks: (1) elementary grade in which the kanji are taught in Japan; (2) the classification of the kanji as either simple ideograph, loan, pictograph, semantic composite, or semantic-phonetic composite; and (3) the

JLPT level of that kanji for each of the textbooks. Kanji which did not fall within any of the relevant categories were listed under "Others."

Grade. Results for analysis of grade indicate that all textbooks selected the majority of kanji from Grades 1 and 2, with all textbooks having a higher percentage of kanji from Grade 2. Grade 3 level kanji were also included, with Minna no Nihongo having 22.27% of kanji from Grade 3, the highest percentage of kanji from that grade. The results from this analysis are illustrated in Table 4.

Table 4: Elementary School Grade

	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6	Others	Total
Genki	59	61	18	4	-	2	1	**145**
	(40.69%)	(42.07%)	(12.41%)	(2.76%)		(1.38%)	(0.69%)	**(100%)**
Minna no Nihongo	63	91	49	9	1	5	2	**220**
	(28.64%)	(41.36%)	(22.27%)	(4.09%)	(0.45%)	(2.27%)	(0.91%)	**(100%)**
Yookoso	56	81	30	3	-	-	-	**170**
	(32.94%)	(47.65%)	(17.65%)	(1.76%)				**(100%)**
Nakama	50	59	10	4	-	3	1	**127**
	(39.37%)	(46.46%)	(7.87%)	(3.15%)		(2.36%)	(0.79%)	**(100%)**

Classification. Results for analysis of classification of kanji indicate that the majority of kanji included were pictographs (kanji which have developed from pictures), semantic composites (combination of two or more existing kanji), and semantic-phonetic composites (the most common type of kanji, comprised of one element that represents meaning and one part that represents sound). The results from this analysis are illustrated in Table 5.

Table 5: Kanji Classification

	Ideograph	Loan	Pictographs	Semantic	Semantic-phonetic	Others	Total
Genki	10	8	49	47	30	1	**145**
	(6.90%)	(5.52%)	(33.79%)	(32.41%)	(20.69%)	(0.69%)	
Minna no Nihongo	10	7	57	77	69	-	**220**
	(4.55%)	(3.18%)	(25.91%)	(35.00%)	(31.36%)		
Yookoso	10	6	57	50	47	-	**170**
	(5.88%)	(3.53%)	(33.53%)	(29.41%)	(27.65%)		
Nakama	11	6	48	35	27	-	**127**
	(8.66%)	(4.72%)	(37.80%)	(27.56%)	(21.26%)		

Japanese Language Proficiency Test. Results from the analysis of JLPT level indicate that the majority of kanji included in the four textbooks were from levels 3 and 4 of the JLPT. Minna no Nihongo was the only textbook that had more kanji from level 3 than 4, possibly due to the larger number of kanji included in this textbook. Some kanji from level 2 of the JLPT were included, with Nakama having the highest percentage of kanji from level 2 (12.60%). No kanji from level 1 were included in any of the textbooks. The results from this analysis are illustrated in Table 6.

Table 6: JLPT Level (Old JLPT)

	Level 4	Level 3	Level 2	Others	Total
Genki	80	55	9	1	**145**
	(55.17%)	(37.93%)	(6.21%)	(0.69%)	**(100%)**
Minna no Nihongo	80	122	18	-	**220**
	(36.36%)	(55.45%)	(8.18%)		**(100%)**
Yookoso	75	74	21	-	**170**
	(44.12%)	(43.53%)	(12.35%)		**(100%)**
Nakama	71	40	16	-	**127**
	(55.91%)	(31.50)	(12.60%)		**(100%)**

Part 2: Kanji Orders

Table 7 outlines the percentage of kanji included in each textbook which falls within one or more of the specified categories: pictographs (etymology), opposite meanings, mutual components, contextual meaning, compound kanji, component based, and other orders.

Table 7: Kanji Orders

	Percentage of Kanji that Fall Within an Order Category	Percentage of Kanji that Do Not Within an Order Category
Genki	74%	26%
Minna no Nihongo	74%	26%
Yookoso	64%	36%
Nakama	82%	18%

Nakama had the highest percentage of kanji fall within an order category. *Yookoso* had the lowest percentage of kanji orders, while *Genki* and *Minna no Nihongo* were equal at 74%. Table 8 examines the breakup of the kanji that fell within ordering categories and outlines which categories they fell under.

Table 8: Ordering Categories

	Etymology	Component Based	Mutual Components	Context-Based Order	Kanji Compounds	Opposites	Other Orders
Genki	17.0%	0.0%	5.0%	25.8%	39.6%	11.3%	1.3%
Minna no Nihongo	13.8%	0.0%	3.1%	27.3%	38.5%	15.4%	1.9%
Yookoso	13.5%	0.0%	5.2%	25.4%	35.8%	17.6%	2.6%
Nakama	14.2%	0.0%	2.2%	35.5%	30.6%	14.2%	3.3%

For the percentage of kanji falling under the ordering categories, the analysis reveals similar results for each textbook. Kanji falling under the etymology ordering category were relatively similar for all textbooks, with *Genki* having slightly more kanji fall under this category. No kanji fell under the component-based ordering category. Kanji falling under the mutual component ordering category were relatively low in number for all textbooks; and context-based kanji was similar for most textbooks, with *Nakama* having approximately 10% more kanji fall under this category than the other textbooks. Kanji compounds also reveal relatively similar results but with *Nakama* having the least number of kanji fall under this category, approximately 10% less than *Genki*. Similarly, results for kanji falling under the opposites ordering category were similar, but *Yookoso* had the highest number of kanji fall under this category, 6% more than *Genki*. "Other orders" were identified when there was a

connection between two kanji, but that connection did not fit within an existing category. For example, consecutive kanji such as 出会, which would require the addition of the *hiragana* character う to formulate the word 出会う（*deau*/to meet） were included in this category. Only a small percentage of kanji fell within this category.

Discussion

The present study initially asked which kanji are selected for inclusion in beginner-level Japanese language textbooks. In order to address this issue, the study examined the kanji included in four Japanese language textbooks and compared the Japanese elementary school grade, kanji classification, and JLPT level. As discussed below, the results showed that while there was considerable overlap in kanji selection for each textbook, there were some interesting differences as well, particularly in relation to the JLPT level and elementary grade of kanji included in each textbook.

The data on kanji classification revealed a large number of pictographs were included in all four textbooks, indicating a pedagogical approach which emphasizes kanji etymology or kanji frequency. Introducing pictographs in the initial stages of kanji learning has proven to be an effective pedagogical approach (Hatasa, 1989; Takebe, 1989; Yamashita & Maru, 2000). This approach, however, has limitations. Pictographs only constitute a small percentage of kanji, and many kanji bear little resemblance to their original form (Taylor & Taylor, 1995). For example, the kanji 業 (*gyou*, *waza*/profession, deed) was originally written to depict a base and notched board of a musical instrument (Henshall, 1988, p. 75). Thus, the original meanings of this kanji and its form have both changed over time making its etymology of little use in the task of remembering kanji for the JFL student. Rose (2019) in relation to this approach notes that, "The strategy soon outlives its usefulness as students progress in proficiency and encounter more and more kanji that are abstract or complex in their representations of the language's morphemes and phonology."

Results from the analysis of Japanese elementary school grade and JLPT level for kanji included in the textbooks revealed no significant similarities across all four textbooks. Clearly, the kanji introduced are not limited to those kanji from grade one but rather are from varying grade levels. For three of the four textbooks, more kanji featured from grade two than grade one. Moreover, three of the textbooks included kanji, albeit small in number, from grade six. Even *Nakama,* which had a smaller number of kanji*,* introduced the kanji「私」*watashi* "I" which is a kanji introduced at grade six in Japan. *Minna no Nihongo* introduced「奥」and 「寝」which are not even taught in elementary school. Kanji selection, therefore, is different from the order in which they are taught in Japan. From this, it be can be assumed that the authors of these textbooks perceive that kanji and the order they are introduced in Japan may not be the best order to use to introduce them to JFL learners. It is difficult to say what the reasoning is behind the kanji selected for inclusion in these textbooks, other than that it is most likely based on subjective opinion as to the importance of the kanji and how it relates to the other parts of the textbook. If we consider the results in relation to JLPT level, other than *Minna no Nihongo*, the majority of kanji introduced in all textbooks are from JLPT level 4. As we can only surmise as to the intention of the authors, it is difficult to say whether this was an

intentional action. It is feasible to assume that it probably was not, and when we examined the results it is clear that a large proportion of the kanji were also taken from JLPT level three. This, however, is not surprising as level four of the JLPT consisted of approximately 100 characters and level three consisted of approximately 300 characters. All textbooks included kanji from level two of the JLPT, which is an interesting result considering that these textbooks are aimed at the beginner and level two was regarded as a quite advanced level of the old JLPT. As with the case of the relationship between kanji selected for inclusion and the equivalent elementary school grade level of those kanji, there seems to be little relationship between JLPT levels and kanji included in these textbooks.

The second part of the study asked which kanji ordering strategies are present in beginner-level Japanese language textbooks. The results demonstrated that the ordering strategies adopted by all four textbooks were similar (See Table 8). That is, despite all textbooks including different sets of kanji, interestingly, the percentage of ordering patterns adopted was similar. Context-based and kanji compound orders dominated the results, while component-based orders were not present in any of the textbooks. These findings support our hypothesis that a component-based pedagogical approach to kanji learning, while popular in self-study kanji textbooks, is underutilized in beginner-level Japanese language textbooks.

Pedagogically speaking, the overwhelming presence of kanji compounds and context-based strategies in the textbooks shows that a top-down approach to kanji instruction has been emphasized. In contrast, self-study kanji textbooks frequently address kanji from a bottom-up pedagogical approach representative of a more structuralist approach to language learning and teaching. In terms of L2 reading of Japanese, Everson and Kuriya (1998) found that JFL learners tend to focus on bottom-up processing strategies, and become immersed in the process of decoding characters and words.

The most likely explanation for the lack of a component-based pedagogical approach is that, unlike the self-study kanji textbooks, Japanese textbooks are designed to teach all aspects of the language, and therefore a component-based approach to ordering kanji is more difficult to implement in a manner that complements other areas of the textbook. However, the lack of a component-based approach indicates an emphasis on a pictorial strategy for beginners and suggests one reason why JFL students tend to rely on kanji learning strategies such as rote-learning. Incorporating component-based ordering strategies may help students become more aware of the internal structure of kanji and develop "graphemic awareness" (Toyoda, 1998, p. 155).

Implications for Instructors and Future Research

The data revealed that component-based ordering strategies were absent from beginner-level Japanese language textbooks analyzed in this study. Such findings have clear implications for Japanese language instructors who want to incorporate instruction of kanji components into their curriculum.

Because language learners have different learning strategy preferences, addressing questions about the effectiveness of different learning strategies to determine which strategy delivers better learning outcomes is a moot task. A more important question is how can teachers encourage students to use a wider variety of kanji learning strategies. The results of this study indicate that teachers may need to supplement the textbook with additional material to expose

students to componential analysis of kanji and learning strategies such as mnemonics. In other words, rather than overemphasizing either a bottom-up or a top-down approach to kanji, an approach which exposes learners to an array of different strategies may promote optimal learning outcomes.

This study identified the order in which kanji are presented in beginner-level Japanese textbooks. The orders identified suggested that the textbooks did not support componential analysis and mnemonics as learning strategies. Future studies may wish to investigate how incorporating componential analysis and mnemonics aids kanji understanding and retention in beginner-level Japanese students. While incorporating these learning strategies may assist beginner-level students, this needs to be empirically tested.

Limitations

One limitation of the study is that it analyzed four beginner-level Japanese language textbooks, and thus the pedagogical approach to kanji in intermediate and advanced-level Japanese level textbooks was not included in the study design. A future study that examines textbooks aimed at intermediate- and advanced-level students could reveal interesting results regarding kanji pedagogy. Furthermore, the study may have benefitted by increasing the number of beginner-level textbooks analyzed in the study.

Conclusion

In this paper, four Japanese language textbooks were analyzed with regard to the kanji they selected for inclusion and the order in which they presented them. The study revealed that each textbook's selection of kanji was different, however, kanji orders in all four textbooks closely resembled each other, with a similar ratio of kanji falling under the same ordering categories. In particular, all four textbooks adopted context and kanji compounds as their ordering strategies. On the other hand, the component-based approach was completely absent in the Japanese language textbooks analyzed in this research.

The results suggest that the pedagogical approach adopted in the analyzed textbooks emphasized the etymology and semantic function of kanji by introducing kanji as units of meaning which developed from pictographs. While there are pedagogical benefits to this approach, a more balanced approach to kanji instruction which increases student awareness of the relationship between kanji components may facilitate learning. Teachers can also use the component-based approach to introduce students to a broader range of learning strategies such as mnemonics.

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Appendix

The six categories of *kanji* (*Rikusho*) (Henshall, 1988)

Pictographs (*shōkeimoji*/象形文字)	These characters are *kanji* which have developed from pictures of the objects they represent. Many of these characters bear little resemblance to the objects they represented. Examples of pictographs: 人- person, 口- mouth, 目- eye
Ideograph (*shijimoji*/指示文字)	These characters are *kanji* that represent abstract concepts such as numbers and directions. Examples: 一- one, 上 - above, 下 – below
Semantic Composite (*kaiimoji*/会意文字)	These characters are a combination of two or more existing *kanji* to make a single character. Examples: 森 – *mori*/forest (a combination of the *kanji* 木), 鳴く *naku*/animal cry (a combination of 鳥 *tori*/bird and 口 – *kuchi*/mouth)
Semantic-phonetic composite (*keiseimoji*/形声文字)	These characters are the most common of the *rikusho* categories. In these *kanji* one part represents meaning and the other part represents sound. Example: 詩*shi*/poem (a combination of 言 and寺)
Derivative characters (*tenchūmoji*/転注文字)	This group of *kanji* refers to *kanji* that have taken on a new meaning related to and derived from their original meaning. For example, the *kanji*, 楽 used for music, ease, etc, has also taken on the new meaning of "fun," and is therefore used for both music and fun.
Loan *Kanji* (*kashamoji*/仮借文字)	These characters are called loan characters and are used for their phonetic quality and no longer for their original intended meaning. For example, the *kanji* 我 was borrowed to phonetically express *ga/ware* meaning "I," or "oneself."