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Kanji Acquisition Techniques for L1 and L2 Japanese Studies

Amber Richardson

Central Washington University, amber.richardson@cwu.edu

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Kanji Acquisition Techniques for L1 and L2 Japanese Studies

Amber Richardson

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Accepted by:

Yukari Amos Professor, EDTL _____ 5/21/2020
Committee Chair (Name, Title, Department) Date

Joshua Nelson _____ 5/26/2020
Committee Chair (Name, Title, Department) Date

Anne Cubilie _____ 6/10/2020
Director, William O. Douglas Honors College Date

Note: Signatures redacted due to privacy concerns.

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Kanji are ideograms, a morphographic system borrowed from the Chinese language and used in Japanese writing. 2,136 kanji are used in the average Japanese newspaper, required for academic certification and for expat job placement. A qualitative study was conducted to observe the optimum methods to learn and acquire kanji. Japanese native speakers who were educated by the Japanese school system grades 1 through 12 are classified as L1 or first language speakers. American students, L2 or second language speakers, must have been educated in the American education system grades 1-12. L1 speakers were students attending Central Washington University (CWU) study abroad programs and L2 students were Japanese Major or Minor degree seeking CWU students. A comparison between L1 and L2 speakers was observed by interviewing 10 students from each group on acquisition strategies. Both groups of participants were asked what methods and techniques aided them in passing standardized tests for Japanese kanji. Students described drilling repetition of kanji ideograms for memorization combined with reading for real time comprehension as the best method for kanji retention. Current study results show that frequent reading of Japanese kanji and understanding of the semantic and phonetic radicals that makeup each ideogram are the best ways to strategically acquire kanji.

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Chapter 1. Introduction

What are Kanji?

Modern Japanese writing started to become standardized after World War 2, Japanese has two systems for writing, kana and kanji, kana describe hiragana and katakana and kanji are Chinese characters. The following is a brief introduction and history of the writing systems of Japanese and how the variety of writing systems were developed from Chinese kanji. Writing in Medieval Japan before hiragana was standardized, was mostly in ancient Chinese hanzi and written by educated men for political and religious texts. **Hiragana** were created from the ancient hanzi and were mostly used by upper class women because they were not allowed to write in kanji or katakana (Akagawa). One of the most notable works of literature from Japan *Genji Monogatari* was written entirely in hiragana in the early 11th century by a noble woman named Murasaki Shikibu. The 46-hiragana used today are only a small fragment of the rich cultural variety used before. In modern Japanese, hiragana is fundamental. Not only are hiragana used for particles and verb conjugation but everything in the Japanese language can be written in hiragana. Hiragana represent basic Japanese sounds and are organized by a single consonant matched with a vowel. **Katakana** were created by using simplified stem forms or elements of ancient Chinese hanzi and introduced to Japan via Buddhist priests during the Heian period 794 AD – 1185 CE (Yasuka). It is unclear when katakana were designated for borrowed or foreign words. Starting in the Meiji restoration in 1868, to modernize Japan a standardized public education system began. During arguments for Meiji restoration it was debated if English should become the official language of Japan (Teruhisa). Instead information was

proactively translated from western and European ideals into Japanese, which ultimately led to Japan's successful development into the modern age (Kwon). The usage of kanji for translation of foreign ideals aided in Japan's rapid development. Takeshi Saito states

“If it was believed that new academic knowledge and understanding of culture and its institutions should be only left to a select class, and therefore education belonged only to a small handful of the elite, there would have been absolutely no need to improve or develop Japanese. However, if it was believed that science, technology, philosophy, and all things cultural should be shared by all in Japan and that as many citizens as possible should have the chance to receive a high level of education, Japanese had to be improved.” (qtd. Teruhisa)

Kanji, Chinese characters, logographs or morphemes, are used to summarize Japanese words and names, including location names. Small hiragana written above advanced level kanji are called **furigana**, to help readers recall rare kanji while reading. Lastly the roman-alphabetized writing of hiragana or **romaji**, are rarely used but Japanese people do learn to read roman alphabet letters. While hiragana is mainly used for words kanji do not cover, katakana is used for foreign words, foreign names, onomatopoeia, and some scientific technical terms (Yasuka). The vowel's A,I,U,E,O あいうえお in hiragana are pronounced Ah, Ee, Oo, Eh, Oh. In katakana, my name “Amber” is pronounced A-N-BA or アンバー.

In the Japanese education system, from age six students are taught hiragana first to learn how to pronounce correctly, read basic words, and write. Memorizing hiragana characters to pronounce the language correctly speeds up the process for second language learners or L2 so you do not focus on Romanized reading and learn faster by reading kanji and kana.

For the rest of the paper second language learners of Japanese will be referred to as L2 and first language Japanese as L1. To be considered fluent and pass the highest-level Japanese Language Proficiency Test (JLPT) one must be able to read 2000 kanji (Bogedin). Passing this test at N1 or fluency level, certifies ability to read Japanese writing with logical complexity, read abstract writing from a variety of topics like newspapers, with a comprehensive understanding (N1-N5: Summary of Linguistic Competence Required for Each Level). The number of compulsory kanji is regulated by the Ministry of Education, Culture, Sports, Science and Technology (MEXT) and before April 2020, compulsory kanji was had not been updated since 1989. From April 2020, the list of compulsory kanji required for elementary school students has gone up by 20 (Added 20 Prefecture Names to Compulsory Kanji for Elementary School). There will now be 1026 **Kyouiku Kanji** or education kanji, the compulsory kanji required for elementary school students grades one through six. To graduate high school, you must know 2136 kanji, these kanji are called **Jouyou Kanji** (Revised Kanji Table, Official Announcement on 30th Cabinet Decision). There are kanji that look just like the object that they represent; these kanji are called **Shokei-moji**. For example, 木 this means tree in Japanese and looks like a tree. **Shiji moji**-represent concepts, an example is 上 is an arrow pointing upwards, and means up and above. **Kaii-moji** are compound ideograms, a combination of two or more pictograms 峠 is pronounced “kokuji”, has the kanji for mountain 山, up 上 and down 下 this kanji means mountain pass. **Keisei-moji** are the most widely used in modern standard lists of kanji, these are phonetic-semantic or radical-phonetic compounds. Usually keisei moji are made up of two components, one of which suggests the general category of the meaning i.e.,

semantic context, the other uses the original Chinese pronunciation. An example is 花 which means flower in Japanese, this kanji consists of the bottom radical 匕 and borrows the Chinese pronunciation HU-A, with the upper most semantic radical 艹 meaning grass.

This character is pronounced HA-NA.

Purpose of this Study

In Japan, students learn a set amount of kanji per grade level from first grade until twelfth grade. Therefore, they have 12 years to learn the number of kanji characters they are required to learn in public education. Kanji are seen everywhere in Japan in public spaces.

This peripheral information significantly helps Japanese people memorize kanji.

However, this is not the same for those who learn Japanese as a foreign language in America. Not only is classroom setting time limited, but also there is no peripheral information available. Therefore, American college students have a significantly more challenging experience memorizing kanji compared with Japanese counterparts.

Oftentimes, American students find these aspects challenging because they must memorize many kanji to pass the class exams. Knowing the disadvantages L2 students encounter learning kanji in America, I wanted to know how they attempt to memorize kanji and whether the ways they memorize is different from the ways the L1 students do. The purpose of this study was to better understand the optimum methods of kanji acquisition by interviewing L1 and L2 students and comparing the most successful methods between both groups.

Methods

January 2020, I conducted in person interviews at Central Washington University (CWU). The interviews were performed on campus with 10, L1 students and 10, L2 students. The interviews were conducted in English and lasted no longer than 30 minutes per student. The same five questions were asked for each group:

- 1.) How long have you been learning Japanese?
- 2.) Did you find it difficult to learn kanji?
- 3.) On average, how many hours a day do you study kanji?
- 4.) How do you typically memorize kanji?
- 5.) What do you find to be the most efficient method to memorize kanji, in your opinion?

For the purposes of my study, L1 speakers will be defined as Japanese students attending Central Washington University. To fulfil the requirements of the student interview, L1 students must have attended the Japanese education system from grades 1-12 and their first language must have been Japanese. L2 students are defined as American students who attended the American education system from grades 1-12 and their first language at home must be English.

Chapter 2: Literature Review

Literature Review

Kanji **morphemes** or **morphographic** system, are unit characters that have meaning. The Japanese language is unique due to its **orthography**, the **syllabary** (hiragana and katakana) and the **logography** appear in the written language. The syllables have no meaning but the basic unit of kanji as a morpheme represents a certain meaning as well as sound (Joyce).

School children in Japan are taught kana, hiragana and katakana, before they are taught kanji. This maybe because laymen and educators believe that kana are easier to learn than kanji due to the complex system of kanji (Steinberg and Yamada). Kanji are words used in everyday conversation and kana are mostly used for onomatopoeia, so Japanese children can make connections to words from socialized concepts (Steinburg and Yamada). Steinburg and Yamada were able to connect the meaningfulness or meaning-making concepts of great importance overpowered that of visual perception of complexity when it came to memorization of kanji characters (Steinburg and Yamada). Because Japanese kanji represent words or morphemes, these characters cannot be broken into specific phonemes. However, prediction of pronunciation plays a limited role due to semantic and phonetic components known as phono-semantic compound characters or as previously mentioned “Keisei-moji”, if readers possess a knowledge of pronunciation represented by phonetic radical they may discover the specific reading of the character (Hagiwara). Over 85% of commonly used words or **joyo kanji** are composite characters or two different kanji morphemes, and 60% are characterized as semantic, language based, phonetic composite characters or **keisei-moji** (Miyashita). Meaning, the kanji morpheme contains a **semantic** component in the **pictograph** that represents a certain meaning like the grass example in the introduction, and

another part in the pictograph that is the Chinese morpheme used for pronunciation of the morpheme as a whole.

Over the past few decades, research on L1 logographic processing has shown that readers use visual decoding to identify kanji. From this research we know that mature readers of logographic languages can identify a fair amount of pronunciation represented by phonetic radicals so that readers may refer to phonographic decoding strategies when necessary (Hagiwara 1).

In Mori's second language study, Mori suggests the same **orthographic** processing principles may apply across different writing systems by making cross-linguistic comparisons of two different perspectives: the comparison of literacy development and orthographic processing abilities of L1 monolingual readers vs. the study of word processing abilities within multilingual readers including those who possess relatively high balanced proficiencies in multiple languages as well as L2 readers who are just starting (qtd. Mori). Cross reference is made available by the relevance of L2 bilingual reading being a study of cognitive structure underlying L1 reading foundation with a focus on literacy development. Due to the nature of reading and writing in Japanese, students must learn different processing schemes for the variety of orthography associated with different words. Words that are written in kanji, are a crucial part of Japanese written vocabulary, so the acquisition of efficient kanji processing skills involves graphemic, phonetic and **semantic** analyses of characters vital for fluent reading (qtd. Mori). As a result, most published work addressing learning to read in Japanese specifically addresses kanji processing and learning. When it comes to reading and comprehension of kanji various components come into play. According to Roebuck, reading and text comprehension involves the interaction of various processes and the construction

of meaning. It is through reader driven interactions of the text that “meaning-construction” may continue by producing a recall protocol as an assessment of understanding (Roebuck). Most compounds have a single pronunciation, while single characters in isolation usually have at least two or more readings of the kanji character known as the Japanese reading **kunyomi** or “kun” reading and the Chinese style **onyomi** or “on” reading. Most studies on kanji acquisition focus on single character words or kanji compounds. Kanji characters have both semantic and phonetic value because of the depth of kanji. The orthographic depth hypothesis was developed by Katz and Frost, which proposes that the occurrence of sound activation depends on the phonetic transparency of **radicals** (Mori). Hiragana and Katakana are both phonetically shallow due to the phonetic remaining constant. The hypothesis predicts that the processing of phonetically opaque (deep) kanji characters are associated with longer processing time and more errors than phonetically transparent shallow scripts (qtd. Mori).

English speaking L2 Japanese learners during a study of L2 college students found that retrieval discrepancies were made between recognition and production due to student’s insufficient knowledge of compositional structures of the kanji characters. These errors are like errors made frequently by L1 Japanese Junior High School students (Mori). L2 learners exhibit a gap between recognition and production skills, the acquisition of competent kanji writing skills comes later than recognition skills. When it came to studies with L1 speakers of Japanese, research showed that orthographically similar compounds of kanji caused longer reaction times and more errors. When similar compounds were presented in the context of a sentence readers made fewer errors than when the same characters were presented in isolation (qtd. Mori). Knowledge of position, function, and semantic category of

radicals for Japanese children in first through fifth grades showed a strong correlation of word reading and sentence comprehension. For Japanese elementary school children, Higuchi found that “kanji processing abilities together with intelligence and vocabulary knowledge accounted for a large portion of variance of reading kanji as well as listening comprehension” (qtd. Roebuck).

Viewing native and non-native language learner’s reconstruction techniques of texts through activities helps to discover more about comprehension development. Appel & Lantolf (qtd. Roebuck) discovered that readers assume that they understand L2 writing more than they really do. Due to readers overestimating the understanding of a passage L2 readers are confronted with errors in their reading assessment when asked to recall information from the reading. During oral recall protocol of the Appel & Lantolf study, often readers would comment that “I forgot” in numerous instances (qtd. Roebuck). Kintsch found that the task of recalling texts in one’s native language shows that readers used problem-solving strategies of externalized cognition. “Kintsch (qtd. Roebuck) maintains that even native speakers generally are only able to recall between 10 percent and 25 percent of narrative texts.” Another interesting data point Appel and Lantolf (1994) found in their research of private writing and verbal recall of L1 and L2 languages, was the participants shift from comprehension through writing rather than recalling verbally for meaning making activities. This study connects with the qualitative data I collected from CWU L1 and L2 Japanese Language students on the support kanji writing repetition drills provided. During an observation of L2 Japanese students with L1 English, Mori hypothesized that L1 English speakers would recall kanji with katakana radicals easier than kanji without katakana radicals. As hypothesized, the L1 English group performed better on kanji with katakana

radicals whereas the non-alphabetic L1 Chinese and Korean group performed better on semantic based kanji characters (Hagiwara 3). This showed that L1 English speakers rely on the phonetic information obtained from katakana radicals. Opposing this experiment, Hayes states that L2 learners do not have a fully developed ability to use phonology to hold characters in memory (qtd Hagiwara 4). This can be observed in the most recent textbooks for L2 Japanese learning, one of the most recognized textbooks *Basic Kanji Book* introduces semantic radicals at chapter 5 and phonetic radicals at chapter 14. The most surprising disregard of phonology is seen in *Remembering the Kanji* by Heisig, this book introduces meaning, shapes and stories to help L2 learners remember kanji but eliminates kanji reading throughout the textbook until the end (Hagiwara 4). An investigation of how phonetic radicals influence kanji learning may offer new insights into the role of phonology for L2 learners with alphabetic language backgrounds like English but to this date there is no consensus as to the role of phonology in L2 learner's processing (Hagiwara 4). In another observation it was found that L2 learners who did not hear pronunciation when learning textbook kanji recalled the meaning to the same extent as learners who heard the pronunciation of kanji. This is like L1 children who start processing kanji mainly via a visual route (qtd Hagiwara). It is recommended from this study that L2 learners first devote attention to orthography and use phonological route once L2 learners reach a higher orthographic proficiency. For beginning L2 learners placing too much focus on phonological memory training is too complicated. During this study it is also worth mentioning that repetition may be essential in learning textbook kanji with or without phonetic mediation, results support direct-route memorization and that activation of meaning occurs directly from orthography (Hagiwara 11).

Second language learners want to take their learning into their own hands and improve upon their learning by speaking and getting tips on how to improve. “The output hypothesis proposes that through producing language either spoken or written, language acquisition/ learning may occur (Swain). The nature of phonological and morphological awareness predicts success in reading depending upon the characteristics of the writing system. Basically, sensitivity to the regularity of character structures and regularity of word elements plays an important role in learning to read kanji (Mori).

Chapter 3: Results

Qualitative Data Analysis

Here are the results of the qualitative study conducted to observe the optimum methods to acquire kanji. Both L1 students and L2 students, participating in interviews were at the time current students attending Central Washington University (CWU). Japanese native speakers were all students attending CWU under study abroad programs or English as a Second Language programs and who were educated in the Japanese education system grades 1 through 12 are classified as L1. L2 speakers are Japanese Language Major or Minor degree seeking CWU students who were educated in the American education system grades 1-12.

For L2, 2 out of 10 students have been studying Japanese for 5 years, 5 out of 10 students have been studying Japanese for the past 3 years, one student has been studying for 2 and 1/2 years, and two students have been studying for a few months since the 2019-2020 school year had started. When asked if they found it difficult to study kanji all students said yes. When asked on average how many hours they studied kanji a day, one student mentioned that their goal is to study daily and that they study for a 1/2 hour throughout the day and if there was a test coming up they spend additional time before the exam, one student mentioned that they would like to study more but reserve 2 hours before a test to study kanji, one student uses a method of 10 minute intervals called a "space repetition" sequence until they have the kanji down, another student said that they study on average 1 hour a day when there is an upcoming test, one student mentioned that it depends on their other school work but when consistent a half hour to 45 minutes a everyday, one student mentioned they study

20mins a day but if there is a test coming they study for 2hrs a day, another student mentioned that they study for a quiz 3-4 days out of the week for at least 3 hours a day and if not studying for an upcoming quiz they study for 1 hour a day, another student mentioned they study ½ hour to 1 hour a day and if there is an upcoming test they study for 1 hour a day, another student said they study for one hour a day, the last student mentioned that they study for 1-2 hours a day. When the same group of L2 speakers were asked how they typically memorize kanji one student explained that they study by focusing on the radicals and memorizing the onyomi and kunyomi of each kanji and this same student also uses a flashcard app on their phone and pc to memorize these parts of the kanji, another student said they do kanji writing repetition until they cannot forget the hiragana and kanji and what the kanji means in English, another student said they use flashcards and they use their tablet to practice writing and reading the kanji, another student uses flashcards by writing the kanji on one side the flashcard and hiragana and English on the other side of the flashcard and this same student looks at the hiragana and tries to write the kanji on a separate piece of paper and repeats this method until they memorize the English and Japanese meanings, the next student mentioned that they use a few methods 1.) write down compounds of kanji, meaning in English and hiragana reading 2.) then practice writing kanji 5-10 times following steps 1 and 2 until they memorize and they do this using an app called “anki”, the next student said they use flash cards with hiragana on one side and the kanji on the other and by glancing at one side only use a small white board to write down the kanji or hirigana, another student explained that they write the kanji over and over again with the English meaning and hiragana writing and on a white board practice writing and interestingly with this student they ask their friends to help them by flashing kanji cards at them and the student says the

English out loud, three of the newer L2 students explained that they write the kanji and the onyomi and kunyomi repeatedly. When asked the last question, what they find the most efficient method to memorize kanji: one student said flashcards with the kanji and hiragana and English meaning, another student said writing the kanji in different color pens, one student replied that natural learning through reading manga and learning in context was the best method, the newer L2 student of the group has an idea that learning to speak fluently first as a way of understanding how the vocabulary is used via exponential learning curve or “the click” in your mind. Unknowingly, this is like the strategy Hagiwara mentioned by focusing on orthography first then the phonetics. Continuing the interview, one student mentioned repetition of writing down kanji with hiragana and saying the English out loud then writing the kanji on a whiteboard, one student mentioned writing repetition and remembering what kanji you are trying to depict, one student mentioned writing as many times as possible, one student mentioned repetition with recognizing radicals or bushu in each character and comparing them with kanji with the same radicals, two students were unable to respond to this question.

Here are the results of the L1 students. When asked if they found it difficult to learn kanji, all students found it difficult to learn kanji directly from Elementary school. One student mentioned that although kanji was difficult at the start of their studies, they noticed the repeated radicals or **bushu** in kanji so it became easier to read. When asked on average how often they studied kanji throughout their studies, Japanese students mentioned that they had one-hour periods on weekdays of kanji studies while in school. Several students mentioned that they would spend an average of 30 minutes a day doing kanji homework, for example sheets of kanji character written repetition. Some Japanese students mentioned they would

look up the meaning of a kanji they found on tv or in the newspaper to learn new kanji. All students interviewed mentioned that they did not study kanji for more than one hour a day. One student mentioned that “it is difficult to understand how to read the words” and another said “they can read but can’t write” this student mentioned that it was helpful to use their phone to look up the details of the kanji. When Japanese students were asked how they memorize kanji one student mentioned that her teachers in elementary school would encourage students to do kanji drills. Another student said she came up with the idea to make sentences using kanji, she would make sentences using information she found to be important. Five students mentioned that repetition with furigana helped memorize kanji and that reading textbooks in the classroom helped the students’ study so they would not make mistakes when reading out loud during class time. Lastly, when L2 speakers were asked what the most efficient way to memorize kanji was, answers were: writing repetition for example, on one page write one kanji 20 times, study the kanji in names, for example: 中村 Nakamura, 田中 Tanaka, 山本 Yamamoto etc., studying Japanese textbooks, making sentences, and understanding the structure of kanji.

Chapter 4: Conclusion

In conclusion after performing qualitative interviews with 20 CWU students, the best methods for learning and acquiring kanji, are rote writing repetition, reading kanji in your textbooks, and lastly understanding the radicals that make up the kanji. From my observations, the best ways to learn kanji would be to start with reading the kanji to understand how the kanji are used in sentences and start meaning making practices as you see in Hagiwara's research and from the qualitative interviews conducted. Secondly, it is beneficial for L2 students to then study the kanji radicals and understand the meaning semantics of the kanji. Lastly once L2 students understand the vocabulary they will start to recognize the semantics and phonological associations. This helps readers understand the meaning first and then able to write more kanji with the similar radicals and meanings putting reading and writing abilities into action.

From my qualitative interviews with L1 speakers it was observed that the best way for Japanese students to retain and acquire kanji is in classroom support from the teacher. Students are taught the kanji in the classroom and are assigned kanji worksheets to complete at each grade level. Students also read daily from textbooks to implement new kanji vocabulary into speaking. Both L1 and L2 strategies can be used by both student groups to gain a better understanding of kanji.

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Appendix

Hiragana Chart

あ a	い i	う u	え e	お o
か ka	き ki	く ku	け ke	こ ko
さ sa	し shi	す su	せ se	そ so
た ta	ち chi	つ tsu	て te	と to
な na	に ni	ぬ nu	ね ne	の no
は ha	ひ hi	ふ hu	へ he	ほ ho
ま ma	み mi	む mu	め me	も mo
や ya		ゆ yu		よ yo
ら ra	り ri	る ru	れ re	ろ ro
わ wa				を o
ん n				

(Dartmouth, Ishida 2019)

Glossary of Linguistic Terminology

Bushu - Every kanji is made of a radical, and a radical itself can be a kanji. Radicals express the general nature of the kanji characters, and provide clues to the kanji's origin, group, meaning, or pronunciation, kanji radical in Japanese is “bushu”.

Joyo kanji – 2136 commonly used kanji needed to complete high school, literal meaning is daily use kanji.

Kaii-moji - compound ideograms: a combination of two or more pictograms

Keisei moji- the most widely used in modern standard lists of kanji. These are semanticphonetic characters generally made up of two components: meaning and pronunciation or sound.

Kunyomi - is the Japanese reading of the kanji

Kyouiku Kanji – the set of kanji taught to grades 1 through 6.

Logography (kanji) - (i.e., marked by a letter, symbol, or sign used to represent an entire word) is the term that best describes the nature of the Chinese writing system. ... language by means of a logographic script. - britannica

Morphemes (kanji)- a distinctive collocation of phonemes (such as the free form “pin” or the bound form of -s of “pins”) having no smaller meaningful parts

Morphography (kanji) - Linguists distinguish between simple words, such as *soon*, which have no internal structure apart from sound, and complex words, such as *sooner*, which can be analyzed into meaningful parts (in this case *soon* and the English comparative suffix – *er*). Morphology addresses the latter. – Oxford University Press

Orthography – (a) the art of writing words with the proper letters according to standard usage (b) the representation of the sounds of a language by written or printed symbols (c) the part of language study concerned with letters and spelling. a method of spelling, as using an alphabet or other system of symbols; spelling

Onyomi- is the Chinese reading of the kanji.

Pictograph- a pictorial symbol for a word or phrase. Pictographs were used as the earliest known form of writing; examples having been discovered in Egypt and Mesopotamia from before 3000 BC.

Radical- part of the kanji character

Semantic - relating to meaning in language or logic.

Shiji moji- simple ideograms that represent abstract concepts

Shokei-moji - characters are pictographic sketches of the object they represent

Syllabary (hiragana and katakana) - a set of written characters representing syllables and

(in some languages or stages of writing) serving the purpose of an alphabet. – Oxford

Dictionary