


Developing Reading Proficiency in Japanese

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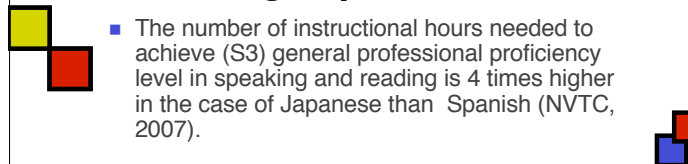
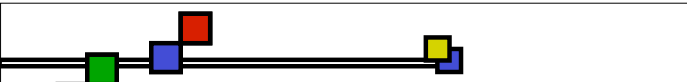
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Hiroshima University



Learning Japanese

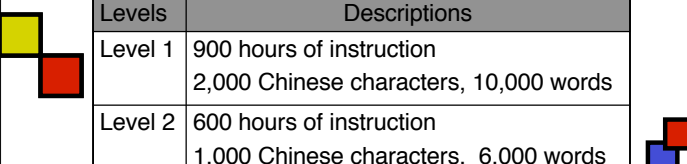
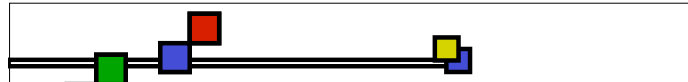
- The number of instructional hours needed to achieve (S3) general professional proficiency level in speaking and reading is 4 times higher in the case of Japanese than Spanish (NVTC, 2007).

Spanish	500-600 hours
German	750 hours
Japanese	2,200 hours

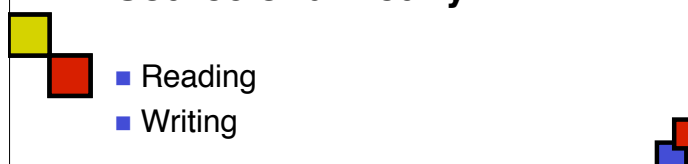
日本語能力試験: Japanese Language Proficiency Test (JPLT)

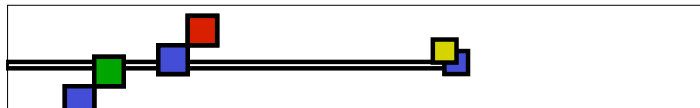
Levels	Descriptions
Level 1	900 hours of instruction 2,000 Chinese characters, 10,000 words
Level 2	600 hours of instruction 1,000 Chinese characters, 6,000 words
Level 3	300 hours of instruction 300 Chinese characters, 1,500 words
Level 4	150 hours of instruction 100 Chinese characters, 800 words

Source of difficulty

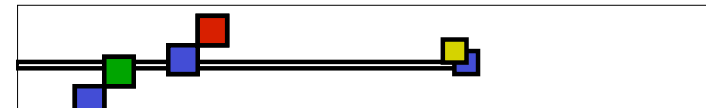
- Reading
- Writing





Basic Reading Processes

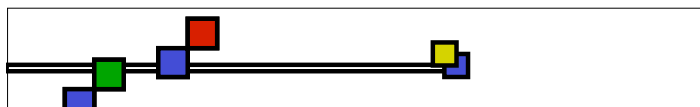
- Bottom-up Processing
- Top-down Processing



Bottom-up Processing

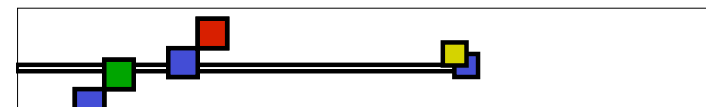
- Decoding of linguistic information from smaller to larger units.

Letter
 ↓
 Word
 ↓
 Phrase
 ↓
 Sentence
 ↓
 Paragraph



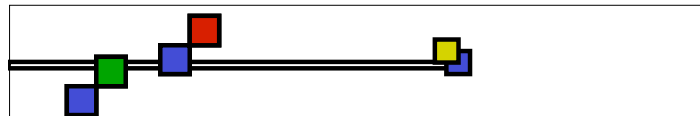
Top-down Processing

- The use of non-linguistic or textual background knowledge to make inferences and predictions regarding the text, and to facilitate comprehension.
- An ability to comprehend the text depends significantly on the non-linguistic knowledge possessed by the reader and the reader's ability to apply this knowledge to interpret the text.



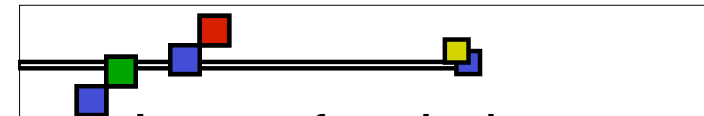
Schema Theory (Anderson, 1977)

- The activation of schemata supports the top-down processing.
- Types of Schemata
 - Formal Schema
 - Content Schema



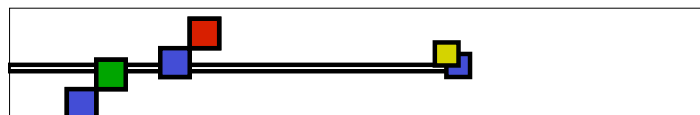
Formal Schema

- Knowledge about the organization of a text
E.g.) English
 - Argumentative, expository, comparative writing etc.
 - Introduction (topic sentence), body, conclusion
 - Use of transition devices, pronouns, demonstratives



Japanese formal schema- Examples

- Ki-sho-ten-ketsu (起承転結) organization
- Repetitions
- Deletions
- Signaling and transition devices
- Maintenance of a discourse topic within and across sentences using passivization and other structural configurations.



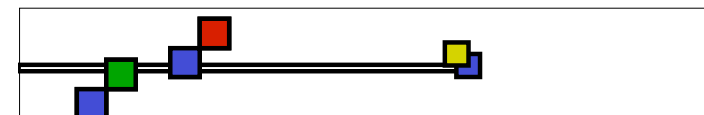
Ki-sho-ten-ketsu (起承転結)

起: Introduction of the topic (without the author's position)

承: Extension of the topic along with feedback, opinion, support, etc.

転: Talking about other things (relationship between the topic and other things, the status of the topic in the entire world, or simply more extension of the topic, beyond author's position)


結: Conclusion based on the former three parts (The author's position will not be stated until this final section.)



起承転結 -poetry·narrative

- Ki (起): 京の五条の糸屋の娘(Daughters of Itoya, in the Motomachi of Osaka.)
- Shō (承): 姉は十六妹十四(The elder daughter is sixteen and the younger one is fourteen.)
- Ten (転): 諸国大名は弓矢で殺す(Throughout history, generals kill the enemy with bows and arrows.)
- Ketsu (結): 糸屋の娘は目で殺す(The daughters of Itoya killed with their eyes.)

頼山陽(1780-1832)



起承転結 -Expository

- Ki (起): In old times, copying information by hand was necessary. Some mistakes were made.
- Shō (承): Copying machines made it possible to make quick and accurate copies.
- Ten (転): Traveling by car saves time, but you don't get much impression of the local beauty. Walking makes it a lot easier to appreciate nature close up.
- Ketsu (結): Although photocopying is easier, copying by hand is sometimes better, because the information stays in your memory longer and can be used late.



Content Schema

山田さんは会社の面接でピアスをしていた。
(job interview)

Yamada-san is a rebel.
Yamada-san is ignorant.
Yamada-san likes to get an attention.



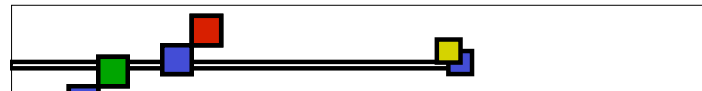
In fluent reading.....

- Both the bottom-up and top-down processing strategies are used in reading.
- Much of the bottom-up processing should be an automatic process rather than a control process.



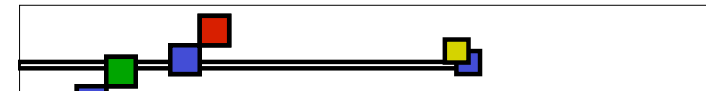
Characteristics of L2 reading process

- L2 learners often lack content and formal schemata about the target language to utilize the top-down processing.
- L2 learners' bottom-up processing tends to be conscious and controlled rather than automatic. Hence their decoding speed is slow.

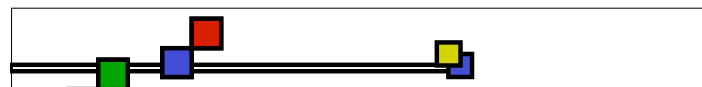


Japanese L2 readers' top-down processing

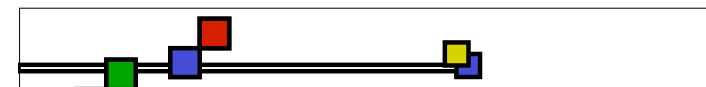
- Proficient readers are capable of using the top-down strategy; An ability to use the top-down strategy positively correlates with language proficiency (Everson & Kuriya, 1992; Horiba, 1990, 1996; Kondo-Brown, 2007).
- English-speaking learners of Japanese have difficulty in *Ki-sho-ten-ketsu* texts compared to Chinese or Korean learners (Takaoka, 1998).



- English-speaking learners transfer L1 formal schema to L2 (Takaoka, 1995, 1996; Kikuchi, 1997a, 1997b). This affects the amount of information recalled after reading.
- Both content and formal schemata should be activated for better comprehension. The activation of only one of them is insufficient (Kikuchi, 1997a, 1997b; Yamamoto, 1994).
- Merely presenting content schema to the reader may not facilitate reading (Nishigori & Suzuki, 1992).



- Inference generation is effective in facilitating comprehension (Watanabe, 1996; Horiba, 1990, 1996).
- Teaching the top-down processing strategies tends to be more effective for beginners, but if a text is difficult or pre-reading activities are insufficient, instruction can lead to erroneous inference.



Bottom-up Processing

- Visual shapes, sounds, and meanings must be processed in order to recognize words, but the relative importance is still debated. (Orthographic Depth Hypothesis vs. Universal Phonological Principle)
- Most problematic feature of the bottom-up processing is **kanji word recognition** and **vocabulary knowledge**.

漢字 *Kanji*

- *Kanji* occupies 40% or more of text spaces.
- *Kanji* is a logographic script, and it is used for content words (nouns, roots of verbs, adjectives and some adverbs).

Number of *Kanji*

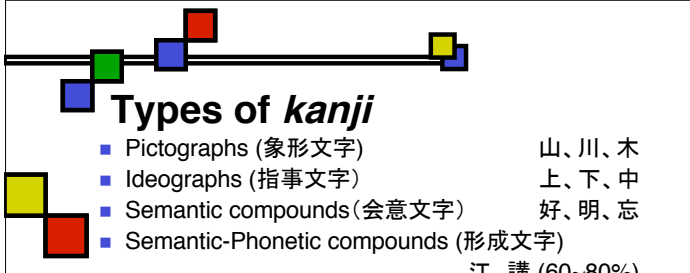
Genre	Number of Kanji
<i>Kanji</i> for daily use (<i>Joyo kanji</i>)	1,945
Printing Bureau	5,210
Japanese literature	5,100
90 magazines	3,328
Newspapers	3,213
<i>Kanji</i> dictionary	12,000 - 50,000

Complexity of *Kanji*

- Large Numbers
- Visual Complexity
e.g.) 鬱 情 清 晴 請 誠
- Lack of Correspondence among Grapheme, Phoneme, and Meanings (Coulmas, 1999)
e.g.) 行
修行 /shu-gyo/ 'line' 行く /I-ku/ 'to go'
銀行 /gin-ko/ 'sequence' 行く /yu-ku/ 'to drive'
行脚 /an-gya/ 'travel' 行う /okona-u/ 'to do'

Frequency of *kanji* (Noda, 1984)

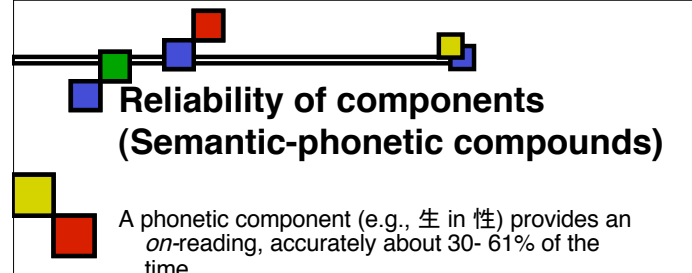
Kanji frequency	News paper	Maga-zine	Kanji frequency	News-paper	Maga-zine
100	40.2%	37.1%	1,500	98.4%	96.6%
200	56.1%	52.0%	2,000	99.6%	98.6%
500	79.4%	74.5%	2,500	99.9%	99.5%
1,000	93.9%	90.0%	3,000	99.9%	99.9%



Types of *kanji*

- Pictographs (象形文字) 山、川、木
- Ideographs (指事文字) 上、下、中
- Semantic compounds (会意文字) 好、明、忘
- Semantic-Phonetic compounds (形声文字) 江、講 (60~80%)
- Phonetic loans (仮借文字) 豆 (ceremonial dish, [too] -> beans, [too])
- Mutually defining (轉注文字) 一 (one -> first, 一番; all, 一切)

❖ About 20% of *kanji* are pictographs, ideographs, and semantic compounds. About 60% of *kanji* are semantic compounds

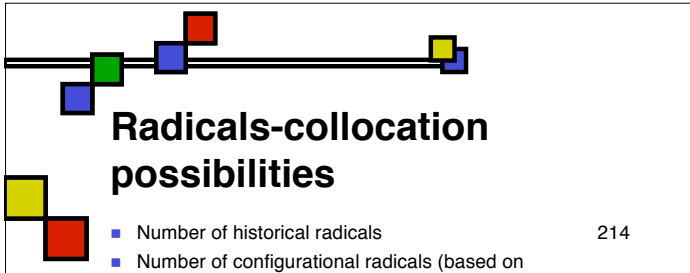


Reliability of components (Semantic-phonetic compounds)

A phonetic component (e.g., 生 in 性) provides an *on*-reading, accurately about 30- 61% of the time.
e.g.) 草、帳、理、性、判

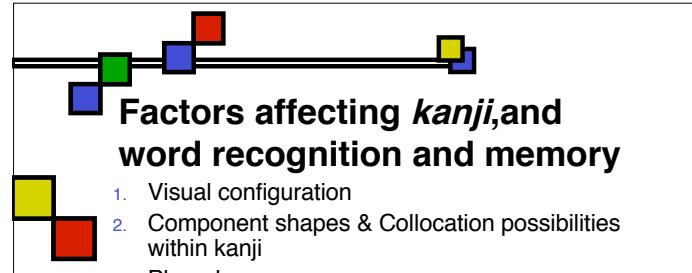
A semantic elements (e.g., 日 in 晴) provides a rough approximation of where *kanji* fits categorically.
e.g.) 松、梅、杉、枝、根、板

Not as reliable as normally thought.
e.g.) 枕、橋、机、村



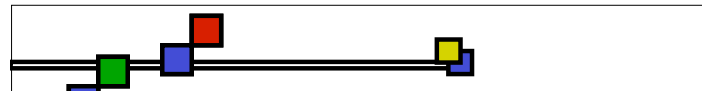
Radicals-collocation possibilities

- Number of historical radicals 214
- Number of configurational radicals (based on configurational similarities) 857
 - 71% appear on the right-hand side of the complex characters (e.g., 糸 (線, 綿, 絞))
 - 11% appear on the left-hand side (e.g., 頁 (順, 項, 類, 頭)).
 - 18% appear in both position (e.g., 方 (坊, 訪, 族, 旅)) (Saito, et al. 1995)



Factors affecting *kanji*, and word recognition and memory

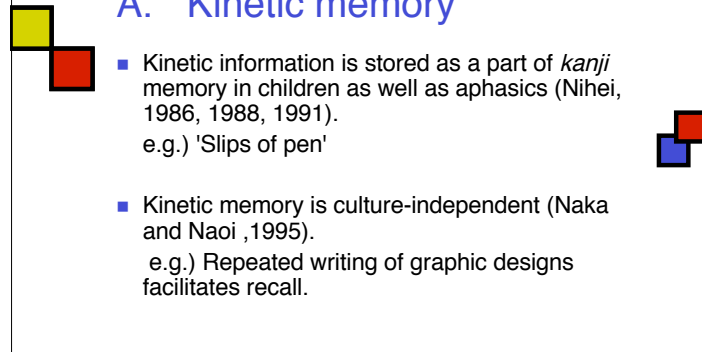
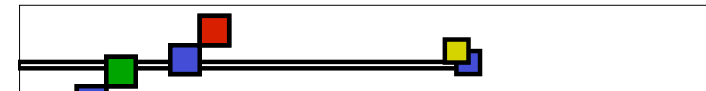
1. Visual configuration
2. Component shapes & Collocation possibilities within *kanji*
3. Phonology
4. Semantics
5. Lexicality
6. Character frequency and Word frequency
7. Collocation possibilities across *kanji* (for *kanji* compounds)
8. Context
9. 1-8 interacts in word processing.



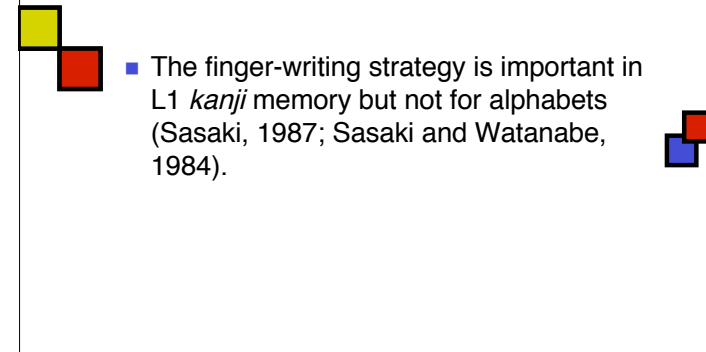
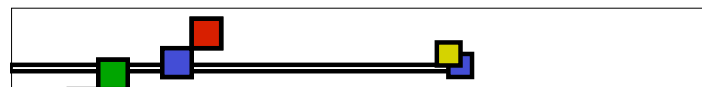
L1 readers' kanji processing

A. Kinetic memory

- Kinetic information is stored as a part of *kanji* memory in children as well as aphasics (Nihei, 1986, 1988, 1991).
e.g.) 'Slips of pen'
- Kinetic memory is culture-independent (Naka and Naoi, 1995).
e.g.) Repeated writing of graphic designs facilitates recall.

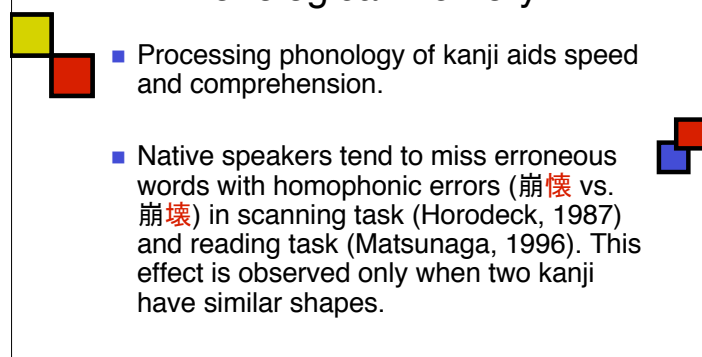
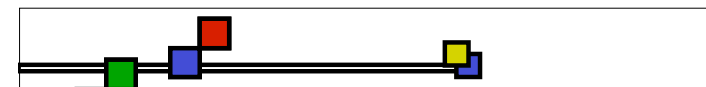



- The finger-writing strategy is important in L1 *kanji* memory but not for alphabets (Sasaki, 1987; Sasaki and Watanabe, 1984).

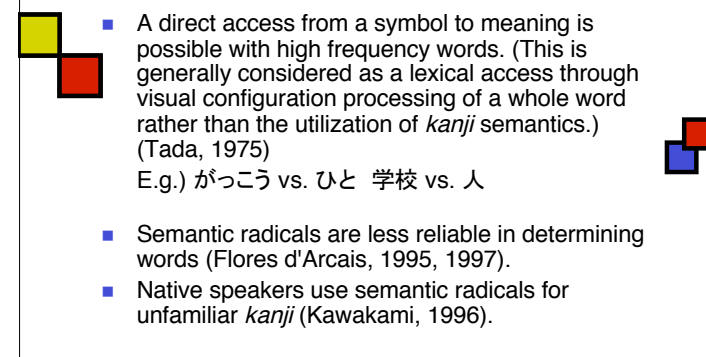
B. Phonological memory

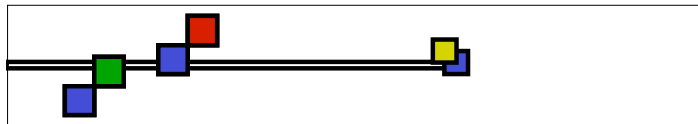
- Processing phonology of kanji aids speed and comprehension.
- Native speakers tend to miss erroneous words with homophonic errors (崩懷 vs. 崩壞) in scanning task (Horodeck, 1987) and reading task (Matsunaga, 1996). This effect is observed only when two kanji have similar shapes.

C. Semantic recording

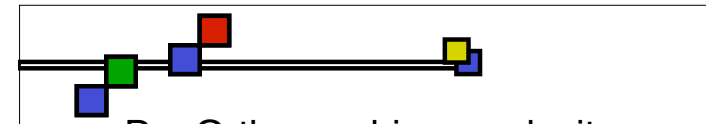
- A direct access from a symbol to meaning is possible with high frequency words. (This is generally considered as a lexical access through visual configuration processing of a whole word rather than the utilization of *kanji* semantics.) (Tada, 1975)
E.g.) がっこう vs. ひと 学校 vs. 人
- Semantic radicals are less reliable in determining words (Flores d'Arcais, 1995, 1997).
- Native speakers use semantic radicals for unfamiliar *kanji* (Kawakami, 1996).





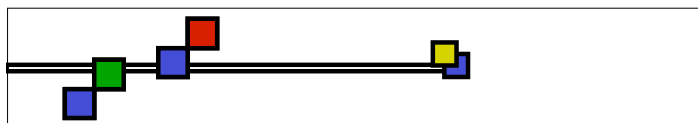
- In general, semantic processing is not as fast as phonological processing (Kawakami, 1995).
E.g.) Prime (phonetic or semantic radical) +60 msc. or 180 msc.

Target	粉	+ semantic, +phonemic
	粒	+ semantic, - phonemic
	粧	- semantic, +phonemic
	粹	- semantic, - phonemic

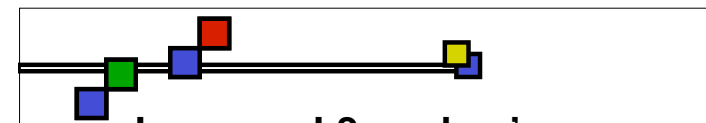


D. Orthographic complexity

- Native speakers utilize configurational radicals to store and retrieve *kanji* from memory.
- Strong effects of homographs (Wydell et al., 1993).
e.g.) Fastest processing of homographs over homophones or homonyms (Wang, 1988).
- Homophone effects disappears with orthographically dissimilar words (Saito et al., 1998). e.g.) 情/清 vs. 草/窓

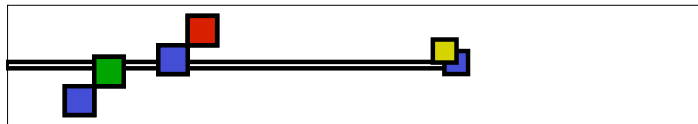


- With a limited number of *kanji*, visually complex *kanji* can be easier for children to learn than visually simple *kanji* (Kawai, 1966).
- For *kanji* of 13 strokes or less, difficulty in *kanji* processing increases proportionally to the number of strokes (Kaiho, 1979).
- Symmetrical *kanji* (e.g., 高) is easier to identify than unsymmetrical *kanji* (e.g., 考) (Saito, 1986).

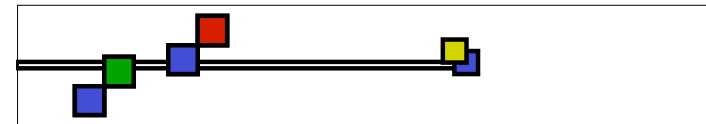


Japanese L2 readers' bottom-up processing

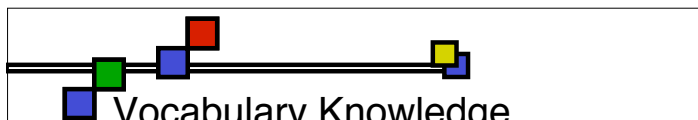
- The speed of letter and word recognition significantly affects reading proficiency (Chikamatsu, 1996, 2003; Koda, 1992, 1994, 1996).
- Less proficient learners rely on the bottom-up processing, and use it as a control process.
- Unlike alphabetic languages, in Japanese advanced learners still rely on the bottom-up process (Warnick, 1996).



- The use of information in letter processing is different depending learners' orthographic backgrounds. Alphabetic readers tend to rely heavily on sound information but Japanese and Chinese readers use both sound and graphic information (Chikamatsu, 1996; Mori 1998; Koda, 1989, 1990, 1998).

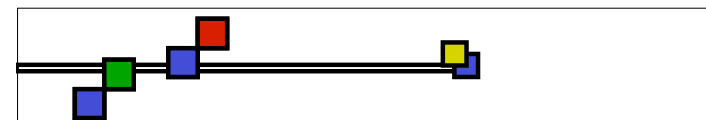


- Learners tend to be affected by their L1. As they become more proficient, they tend to acquire more appropriate strategies for L2 though they may never acquire a native-like strategy (Chikamatsu, 2006; Akamatsu, 1998, 1999, 2002; Haynes & Carr, 1990).



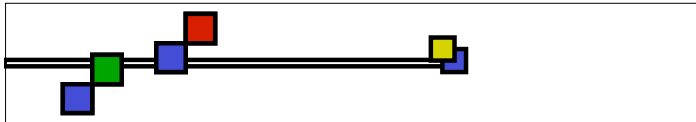
Vocabulary Knowledge

- Vocabulary knowledge is the best predictor of reading proficiency (Anderson & Freebody, 1981; Ammon, 1987; Garcia 1991; Flood et. al., 1991; Rupley, Logan, & Nichols, 1999)
- Native speakers' vocabulary size is estimated as 40,000 words (National Language Research Institute, 1967)
- For fluent reading, a reader must know 95~97% of vocabulary items in the text.




Incidental Vocabulary Acquisition

- The majority of vocabulary items are learned incidentally through reading and listening. Conscious learning of vocabulary has a limitation (Nation, 2001).
- Guessing a word meaning using morphological information and contextual information facilitates the incidental vocabulary acquisition (Freyd & Baron 1982; Tyler & Nagy 1989).
- An ability to guess the meaning of the word using the morphological information is unrelated to language proficiency (Mori, 2003).




- An ability to use context is positively correlated with language proficiency (Mori 2002a; 2003; Kondo-Brown, 2007).
- If a sound can be identified in context, it is easier to guess the meaning of a word (Kondo-Brown, 2007).
- A combined use of morphology and context is more effective than a heavy reliance on one of them. (Mori & Nagy, 1999; Mori 2002a) .



Belief about Kanji and Learning

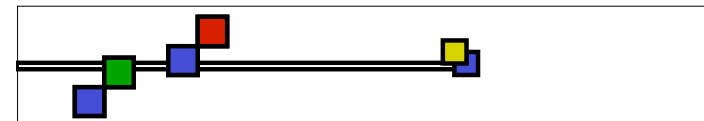
- Beliefs about *kanji* learning significantly affects *kanji* knowledge (Mori , 1999a,1999b).
- Learners who believe that *kanji* is difficult or learning *kanji* requires special skills do not acquire *kanji* effectively (Mori, Sato & Shimizu, 2007).
- Learners who understand the utility and cultural value of *kanji* acquire them more effectively. (Mori, Sato & Shimizu, 2007).
- Learners who understand the importance of *kanji* component shapes and *kanji* morphology acquire them more effectively (Mori, Sato & Shimizu, 2007).



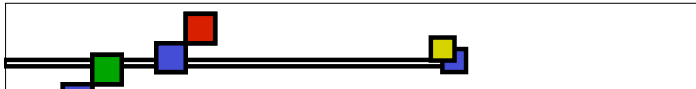
Improving Reading skills:

1. Top-down strategies

- Guess the content based on the title, heading, author name and non-textual objects (e.g., pictures, charts, tables and diagrams).
- Incorporate your prior knowledge into the information in the text.
- Scan or skim the text first (i.e., getting the gist and avoiding the details).
- Disregard unfamiliar, unknown, vague or redundant portions of the text.



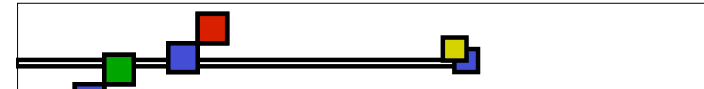
- Find or generate a topic sentence.
- Recognize text structures and outlining the content of the text.
- Differentiate between fact and opinion, negative and positive tones and the like.
- Do an intensive or extensive reading, depending upon the purpose of reading
- Learn about Japanese text organization and always analyze the text critically.



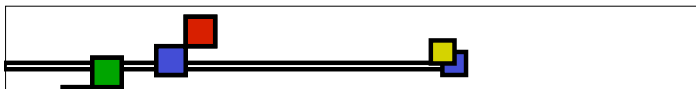
Improving reading skills

2. Bottom-up Strategies

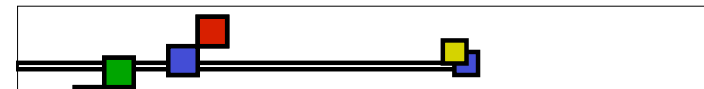
- Increase automaticity for the bottom-up processing.
 - Finger writing and repeated writing, with correct stroke orders of individual *kanji* (文部省「筆順指導の手引き」1958年).
 - Use *katakana* in learning to *kanji*.
 - Pay attention to *kanji* components when learning *kanji*.



- Learn cultural significance and history of *kanji*.
- Learn about the importance of *kanji* in reading
- Utilize *kanji* morphology using *kanji* games, *kanji*-matching games, etc.
- Guess the meaning of *kanji* in context.
- Always look at examples in sentences and phrases when looking up dictionaries.



- Read a text while hearing a native speaker reads it aloud.
- Watch DVD's with Japanese captions.
- Fast speeded games - computer games, *kanji* games on TV, etc.
- Scan on the web. Look for one or two piece information that interest you every day, and check how many times you got it in a given time (e.g., 15 minutes).



- Read materials on the same topic to increase frequency.
- Read a lot of slightly difficult and fun reading materials
- Work on a lot of pre-reading activities in in-class reading.
- Try to paraphrase or define expressions using your own words.

