

Vocabulary Learning in a Beginning Japanese Class: Thematic vs. Lexical Sets*

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1. Introduction

An issue of current debate in foreign language vocabulary teaching deals with the relationships among new lexical items. Some researchers have suggested teaching words in “lexical sets” while others argue against it, suggesting teaching them in “thematic sets.” A lexical set consists of closely related items grouped together by synonymy, hyponymy, antonymy, and other types of relations (Gairns and Redman 1986: 31); a thematic set is a cluster of words that are associated with a common thematic or ideational concept (Tinkham 1997: 141).

In spite of the recent research regarding the teaching of new words in thematic sets, most textbooks of Japanese still adopt teaching vocabulary in lexical sets. For example, *Japanese for Busy People - Kana Version* (Association for Japanese-Language Teaching 1995: 18-19) presents the days of the week together, followed by a short dialogue with a blank that is to be filled in with those new words. *Nakama 1 - Japanese Communication, Culture, Context* (Makino *et al.* 1998: 200-202) introduces new items by classifying them into five lexical groups of food, beverages, sports, music,

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and pastimes and interests. The same type of vocabulary presentation is found in *Shokyu Nihongo Genki* (Banno *et al.* 1999).

With those two conflicting trends in mind, a reasonable question to ask is which of the two vocabulary teaching methods (i. e. thematic or lexical vocabulary presentations) will result in learners' better acquisition of Japanese new words. The purpose of this project is (a) to report which of the two vocabulary presentations was more facilitative in learning new words in this particular study, analyzing eight experiments that I conducted during Spring Semester 2005 in a Japanese 102 class at the Department of Modern Languages and Classics, Ball State University, Muncie, Indiana, and (b) to consider pedagogical implications for vocabulary teaching that can be drawn from the results of the experiments.

2. Literature Review and Research Questions

2.1. Literature Review

A body of research on vocabulary teaching is concerned with how vocabulary should be presented to learners. Some researchers suggest teaching vocabulary items in lexical sets, arguing that clarifying the relationships among words serves as a facilitator. Others argue against this, on the basis of comparative experiments of related and unrelated items.

Channell (1981) argues that teaching vocabulary items in lexical sets is beneficial. In order to effectively present the words in the same set, she suggests such diagrammatical teaching materials as that presented in Table 2-1:

Table 2-1: Being Surprised (Channell 1981: 119)

	affect with wonder	because unexpected	because difficult to believe	so as to cause confusion	so as to leave one helpless to act or think
surprise	+	+			
astonish	+		+		
amaze	+			+	
astound	+				+
flabbergast	+				+

This table shows that ‘surprise,’ ‘astonish,’ ‘amaze,’ ‘astound,’ and ‘flabbergast’ are grouped in a cluster because all of them share the meaning of “affect with wonder.” It also represents that they differ from each other due to an additional sense that all the others lack. For example, ‘surprise’ and ‘astonish’ are in the same group but different from each other in that the former includes the sense of “because unexpected” while the latter comprises that of “because difficult to believe.”

Channell claims that classifying vocabulary items into lexical sets reveals interrelating networks of relations among the words and that systematic lists of items can be passed on to learners.

Similarly, Gairns and Redman (1986) support teaching vocabulary in lexical sets for the following two reasons: first, grouping items together by synonymy, hyponymy, antonymy, and other types of relations serves to provide coherence to the lesson; and second, the lexical vocabulary presentation helps learners to see semantic boundaries between words and build up more items in a coherent way as they progress.

Marzano and Marzano (1988) also advocate teaching vocabulary items in lexical sets. They argue that this type of vocabulary presentation

provides students with implicit clues as to what new words might mean. Learners would, for example, reasonably guess what 'centroid' means, given the following set of similar words: 'middle,' 'mean,' 'mode,' and 'centroid.' They also believe that it helps learners to rapidly expand their vocabulary because it enables them to associate known (e. g. 'middle') to unknown items (e. g. 'centroid').

However, a large number of research indicates that lexical vocabulary presentation may make learning difficult. Higa (1963) investigated whether or not learning a list of high association words was more difficult than a list of low association words.

Table 2-2: Nine Lists of Words in Higa (1963: 171)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
DARK LIGHT	APPLE PEAR	BLOSSOM FLOWER	MAN GIRL	FAST RAPID	FLOWER ROSE	BATH	FON	DEZ
LONG SHORT	HOUR MINUTE	SCISSORS CUT	BITTER SOUR	HASTY HURRIED	SEE VISION	BREAD	GOF	FES
ROUGH SMOOTH	HAMMAR SAW	LAMP LIGHT	DARK LAMP	COARSE ROUGH	BLOCK BOX	FOOT	HOV	HET
SOUR SWEET	PRIEST MINISTER	BED SLEEP	BLOSSOM STEM	RADIANT SPARKLING	CHURCH RELIGION	HEALTH	JOS	JEP
SLOW FAST	RED BLUE	EAGLE BIRD	BIBLE RELIGION	BEAUTIFUL PRETTY	MOTHER SISTER	JOY	LOD	KEM
BEAUTIFUL UGLY	GAS OIL	HAMMAR NAIL	LOUD HARD	TALL HIGH	FAMILY HOME	JUSTICE	MOZ	LEF
						MEMORY	NOM	MEK
						MUSIC	POG	NEG
						SPIDER	SOT	PEB
						TABLE	TOB	VEN
						THEIF	WOL	WEV
						TROUBLE	YOK	ZEL

For the experiment, he prepared the following nine lists of 12 words: (1) the Antonym List, (2) the Coordinate List, (3) the Free-Association List consisting of words which were neither antonyms nor coordinates, (4) the Partial-Response-Identity List, (5) the Synonym List, (6) the Connotation List, (7) the

Control List comprising low association words, and (8) two sets of control lists of CVC triagrams. Comparing the acquisition of each experimental list with that of the control list, he concluded that the lists of associates, antonyms, and synonyms were more difficult than the control list and that learning the control list first facilitated the learning of an experimental list significantly more than vice versa.

Tinkham (1993) considers the results of two experiments he conducted to determine the acquisition rates of his subjects learning semantically related and unrelated new words. Based on interference theory discussed in Crowder (1976) and “distinctiveness hypothesis” in Hunt and Mitchell (1982), Tinkham hypothesized that L2 learners would learn new vocabulary items more easily if the items were grouped together in sets of unrelated words than they would learn new words presented in lexical sets. Both experiments were two-fold. In the first experiment, he presented his participants with two sets of three pairs of English with artificial words; the English words in the first set were semantically related and those in the second set were not. He then administered an oral test. In the second experiment, Tinkham provided the subjects with two sets of six pairs of English with artificial words. Again, English words in the first set were semantically related and those in the second set were not. Again, an oral test was administered.

Table 2-3: Experiment 1 (Tinkham 1993: 374)

Related		Unrelated	
English words	Artificial words	English words	Artificial words
shirt	moshee	rain	achen
jacket	umau	car	nal
sweater	blaikel	frog	kawvas

Table 2-4: Experiment 2 (Tinkham 1993: 376)

Related		Unrelated	
English words	Artificial words	English words	Artificial words
pear	okess	mountain	awnai
apple	nuga	shoe	tosel
apricot	beloot	flower	manzeek
plum	kaisher	mouse	kunop
peach	eckly	sky	efoo
nectarine	depai	television	changee

Examining the results of the experiments, Tinkham concludes that presenting students with new words in lexical sets inhibits vocabulary learning.

In a later study, Tinkham (1997) examines the effects of two different L2 vocabulary teaching methods: semantic and thematic clustering. He conducted two experiments to see which grouping of vocabulary items would be more facilitative. For the first experiment, which consisted of four separate studies, he prepared four groups of words: semantic, unrelated, thematic, and unassociated clusters. Each cluster was made up of two different sets of three items:

Table 2-5: English Words Used in Experiment 1 (Tinkham 1997: 144)

semantic clusters		unrelated clusters		thematic clusters		unassociated clusters	
dish	shirt	acid	island	beach	library	fork	triangle
bowl	jacket	smoke	potato	sunny	whisper	count	improve
plate	sweater	roof	beard	swim	quiet	brave	sweet

Each of the four studies included two sets of three English words paired with artificial words, and those two sets belonged to different types of

cluster. Two of the four studies were conducted in an oral modality and the other two in a written modality. Test results were compared to see how well the participants learned the new items.

The procedure of the second experiment was the same as that of the first one except for the following two features; the number of words in each set in each cluster was six; two sets of items in each of the four studies were in the same type of cluster. The results of those experiments suggest that semantic clustering serves as a hindrance to vocabulary acquisition and that thematic clustering facilitates it.

Table 2-6: English Words Used in Experiment 2 (Tinkham 1997: 151)

semantic clusters		unrelated clusters		thematic clusters		unassociated clusters	
tin	apple	cigar	paint	frog	cave	cloud	hill
bronze	pear	wolf	funeral	hop	explore	erase	behave
iron	nectarine	lace	recipe	slimy	dark	social	stubborn
brass	peach	stone	market	pond	stalactite	office	menu
lead	apricot	chain	uncle	croak	drip	lose	serve
steel	plum	fuel	ice	green	cool	risky	brief

Nation (1990, 2000) argues that learning vocabulary items in lexical sets makes learning them more difficult and time-consuming than learning words that are unrelated to each other. He diagrammatically represents how interference occurs when learners of Japanese are presented two pairs of opposites:

FIGURE 2-1: Input/Output Diagram (Nation 2000: 9)



Nation claims that presenting two similar words together makes learning twice as difficult; learners have to remember *atsui* means 'hot' and *samui* means 'cold,' and, moreover, they have to learn *atsui* does not mean 'cold' and *samui* does not mean 'hot,' which can be confusing and a source of interference. Therefore, he suggests that: (1) similar items, both semantically and phonologically, should be taught separately for initial learning; (2) the most useful items according to frequency and need should be introduced first; (3) presenting vocabulary items in context and normal language use is likely to be facilitative; and (4) a new word in a set should be introduced after another member of the same set is fairly well established.

Schmitt (2000: 147) also warns the danger of cross-association, discussing his own experience of teaching *left* and *right* together in the same lesson.

2.2. Research Questions

Even though a number of research objects to teaching vocabulary in lexical sets and suggests thematic vocabulary presentation, such questions arise: if vocabulary is presented thematically and lexically in a real foreign language classroom (as opposed to an artificial, experimental context) how is it learned? Which method facilitates vocabulary learning better in that situation? What implications for vocabulary learning can be drawn from the study on thematic and lexical vocabulary teaching? To answer those questions, I conducted eight experiments in a Japanese class, whose methodology will be described in the following section.

3. Methodology

3.1. Participants

The participants of the study were all of the 16 students enrolled in a Japanese 102 class which I taught at Ball State University, Muncie, Indiana in Spring Semester 2005. They had completed a Japanese 101 course before this semester. Some of them had more extensive Japanese learning experience; one of them had been learning the language for six years and three for four years, which I will discuss more in Section 6. All the participants were American except for one Korean student.

3.2. Material and Presentation Methods

The vocabulary items used in the study were taken from a vocabulary section in Chapter 7 through Chapter 10 in *Nakama 1 - Japanese Communication, Culture, Context*, the required textbook for the class, and vocabulary handouts (a copy of each is in the Appendix) were prepared to introduce them to the participants. Approximately half of the words in each section were presented thematically and the rest of them lexically.

The thematic presentation was implemented by having the participants read some paragraphs I created in which new words were included. The criteria for the choice of the words in this method were their usefulness in a Japanese speaking situation (as suggested by Nation (2000)) and their relevance to the paragraphs. The presentation procedure was as follows: First I distributed to the students a handout containing two to four topically different paragraphs and read the paragraphs aloud to the subjects. Second, I allowed them about 15 to 20 minutes to figure out what the new words meant and what the paragraphs were about by referring to the book

and/or working with their neighbors. Finally, I read the material aloud again, confirming the students' understanding of the target words and the paragraphs. This type of presentation was conducted in the first, third, fifth, and seventh experiments.

For the lexical presentation, I categorized the remaining vocabulary items into boxes labeled semantically and each box was followed by a sentence with a blank in it. The students were told to fill it in with each word in the box and say the completed sentence aloud. After giving them a handout of this type, I pronounced each word twice and had them repeat it after me. Then, I let them know its English meaning orally, visually, and kinetically (when possible). This sort of presentation was carried out in the second, fourth, sixth, and eighth experiments.

3.3. Data Collection Procedure

A written vocabulary quiz was administered one week after presentation of new words. The quiz had 10 words in Japanese that were chosen from the vocabulary handout, and the participants were to translate them into English¹. The criteria for the choice of the vocabulary items in the quiz were their practicality in a Japanese speaking context, distribution in number among grammatical categories of the words and also between Japanese and English-origin words. With the exception of the second quiz, the sequence of the words in the quiz was consistent with the order of their presentation in the handout. A total of eight vocabulary quizzes were conducted in this fashion.

¹ Although learning words is defined here as the ability to translate them into their L1 counterparts, it is more than that; it includes the distinction between receptive and productive knowledge, word parts, grammatical functions, collocations, constraints on use, and so on (Nation 2000: 23-52).

4. Results of the Experiments

In this section, I will present the results of each experiment with the table showing the vocabulary items used, number of errors, and error rate. I will also point out significant errors and issues relevant to them that will be discussed in Section 5.

Experiment 1

I presented the participants with 24 new vocabulary items from Chapter 7 thematically on January 31, 2005, and I administered a vocabulary quiz on February 7, 2005. Fourteen of the participants took it.

The results of the experiment indicate that *tamago* 'egg' was the least successfully learned. Two participants recalled it as 'raw,' one as 'raw carrots,' and three left it blank. That may be in part due to the design of the thematic presentation; the three items were placed close to each other in the context.

Table 4-1: Experiment 1

Vocabulary Items	Number of Errors	Error Rate
ryokou wo shimasu 'to travel'	2	14.3%
tomato 'tomato'	0	0%
poppusu 'pop music'	0	0%
uta wo utaimasu 'to sing songs'	1	7.1%
futtobo-ru 'football'	1	7.1%
niku 'meat'	0	0%
koucha 'black tea'	2	14.3%
kouen de asobimasu 'to play in the park'	4	28.6%
tamago 'egg'	6	42.6%
basukettobo-ru 'basketball'	0	0%
Total	16	11.4%

Experiment 2

I presented the participants with 22 new vocabulary items from Chapter 7 lexically on February 7, 2005, and I administered a vocabulary quiz on February 14, 2005. Fourteen of the participants took it.

The results of the experiment indicate that *ryouri wo shimasu* 'to cook' was one of the least successfully learned items. Two of the five participants recalled it as *ryokou wo shimasu* 'to travel'. Another difficult item was *yasai* 'vegetable.' One participant confused it with *yasashii* 'easy.' These results may have much to do with phonological and orthographic interference, which was caused by introducing two similar items without much interval between them.

Table 4-2: Experiment 2

Vocabulary Items	Number of Errors	Error Rate
ryouri wo shimasu 'to cook'	5	35.7%
orenji 'orange'	1	7.1%
rokku 'rock and roll'	2	14.3%
ongaku wo kikimasu 'to listen to music'	4	28.6%
bo-ringu 'bowling'	0	0%
yasai 'vegetable'	5	35.7%
bi-ru 'beer'	0	0%
yama no shashin wo torimasu 'to take a picture of a mountain'	4	28.6%
ringo 'apple'	0	0%
jogingu 'jogging'	0	0%
Total	21	15%

Experiment 3

I presented the participants with 18 new vocabulary items from Chapter 8 thematically on February 21, 2005, and I administered a vocabulary quiz on February 28, 2005. Fifteen of the participants took it.

The results of the experiment indicate that a lot of participants failed to successfully learn a large number of items. *Shinshifuku uriba* 'men's department' was the least successfully learned item. Four of the nine participants left it blank and the five partially recalled it, ending up with 'men's wear,' 'clothing store,' 'picture store,' 'game store,' and 'purse section.' *Yasui* 'cheap' was also poorly learned. Two of the seven participants confused it with *yasashii* 'easy'. *Reko-do uriba* 'music department' was confused with *kaban uriba* 'baggage department' by three participants.

The results may reflect both the design of the thematic presentation and phonological and orthographic interference.

Table 4-3: Experiment 3

Vocabulary Items	Number of Errors	Error Rate
takusan 'a lot'	5	33.3%
ji-nzu 'jeans'	1	6.7%
kutsu 'shoes'	3	20%
zubon 'trousers'	2	13.3%
reko-do uriba 'music department'	4	26.6%
se-ta- 'sweater'	2	13.3%
yasui 'cheap'	7	46.7%
shinshifuku uriba 'men's department'	9	60%
~wo tsutsumu 'to wrap~'	8	53.3%
~wo miseru 'to show~'	6	40%
Total	48	32%

Experiment 4

I presented the participants with 15 new vocabulary items from Chapter 8 lexically on March 14, 2005, and I administered a vocabulary quiz on March 21, 2005. Thirteen of the participants took it.

The results of the experiment indicate the lexical presentation led to the occurrence of interference. *~wo motsu* 'to hold~' was confused with another verb in the same set by two participants, and that was the case with *~wo toru* 'to take~' as well. *Bunbougū uriba* 'stationery department' was also confused with semantically similar items by four participants.

Table 4-4: Experiment 4

Vocabulary Items	Number of Errors	Error Rate
kasa 'umbrella'	0	0%
ko-to 'coat'	0	0%
suka-to 'skirt'	0	0%
pantsu 'underwear'	0	0%
motto 'a lot more'	5	38.5%
takai 'expensive'	1	8%
~wo toru 'to take~'	8	61.5%
~wo motsu 'to hold~'	9	69.2%
bunbougū uriba 'stationery department'	5	38.5%
akusesari- uriba 'accessories department'	0	0%
Total	28	21.5%

Experiment 5

I presented the participants with 17 new vocabulary items from Chapter 9 thematically on March 21, 2005, and I administered a vocabulary quiz on March 28, 2005. Fifteen of the participants took it.

The results of the experiment indicate that *tsugou ga warui* 'it is not convenient' was one of the least successfully learned items. Seven of the 10 participants left it blank. Another difficult item was *nani mo irimasen* 'don't need anything.' Two of the 10 participants confused it with 'do not eat.' Those errors may be related to the design of the thematic presentation.

Table 4-5: Experiment 5

Vocabulary Items	Number of Errors	Error Rate
isshoni 'together'	5	33.3%
su-pu 'soup'	0	0%
deza-to 'dessert'	0	0%
nani mo irimasen 'don't need anything'	10	66.7%
itaria ryouri 'Italian food'	3	20%
sandoicchi 'sandwich'	0	0%
tanjoubi pa-ti- ni tomodachi wo yobu 'to invite friends to a birthday party'	9	69.2%
ee, zehi 'yes, I would like to'	3	20%
tsugou ga warui 'it is not convenient'	10	66.7%
ju-su 'ju-su'	1	6.7%
Total	41	27.3%

Experiment 6

I presented the participants with 20 new vocabulary items from Chapter 9 lexically on March 28, 2005, and I administered a vocabulary quiz on April 4, 2005. Fourteen of the participants took it.

The results of the experiment indicate that *youji ga aru* 'I have business' was least successfully learned. Five of the seven participants left it blank and one of the rest partially recalled it, ending up with 'to have.' *Douzo okamainaku* 'don't bother' was also poorly learned. Four of the six participants left it blank. The difficulty of learning those two items may perhaps be attributed to the vocabulary presentation in lexical sets.

Table 4-6: Experiment 6

Vocabulary Items	Number of Errors	Error Rate
kare-raisu 'curried rice'	1	7.1%
hanba-ga- 'hamburger'	1	7.1%
aisukuri-mu 'ice cream'	0	0%
miruku 'milk'	0	0%
furansu ryouri 'French food'	2	14.3%
tomodachi ni au 'to meet a friend'	5	35.7%
sensei wo pa-ti- ni shoutaisuru 'to invite a teacher to a party'	4	28.6%
iie, kekkoudesu 'no, thank you'	3	21.4%
douzo okamainaku 'don't bother'	6	42.9%
youji ga aru 'to have business'	7	50%
Total	29	20.7%

Experiment 7

I presented the participants with 30 new vocabulary items from Chapter 10 thematically on April 11, 2005, and I administered a vocabulary quiz on April 18, 2005. All of the 16 participants took it.

The results of the experiment indicate that *hosonagai* 'narrow and long' was least successfully learned. Six of the 14 participants left it blank and five partially recalled it, with one of them ending up with 'long time,' two with 'long nose,' and another two with 'long.' The second least successfully learned item was *kaisha ni tsutomete iru* 'to be employed at a company.' Six of the 12 participants left it blank and one confused it with 'put on glasses.' *Boushi wo kaburu* 'to put on a hat' was also difficult to recall. Eight of the 11 participants recalled it as 'wear a hat.' Those errors may be involved with the number of vocabulary items to be presented and course planning.

Table 4-7: Experiment 7

Vocabulary Items	Number of Errors	Error Rate
kaisha ni tsutomete iru 'to be employed at a company'	12	75%
okaasan '(someone's) mother'	1	6.3%
ryouri ga jouzuna 'good at cooking'	4	25%
oniisan '(someone's) elder brother'	1	6.3%
se ga hikui 'short (height)'	7	43.8%
kao 'face'	4	25%
ojiisan '(someone's) grandfather'	3	18.8%
boushi wo kaburu 'to put on a hat'	11	68.8%
hosonagai 'narrow and long'	14	87.5%
imoutosan '(someone's) younger sister'	3	12.5%
Total	60	37.5%

Experiment 8

I presented the participants with 41 new vocabulary items from Chapter 10 lexically on April 18, 2005, and I administered a vocabulary quiz on April 25, 2005. Fourteen of the participants took it.

The results of the experiment indicate that interference was caused by the lexical presentation. *Yasete iru* 'to be slim' was the least successfully learned. Five of the nine participants confused it with 'to lose weight' and one as *yasashii* 'gentle.' *Shikakui* 'square' was confused with *akarui* 'cheerful,' *kyoudai* 'sibling' and it was left blank by five participants. *Shinsetsuna* 'kind' was confused with *shikakui* 'square' by one of the seven participants and with *akarui* 'cheerful' by another. These errors may perhaps be due to course planning and the lexical presentation.

Table 4-8: Experiment 8

Vocabulary Items	Number of Errors	Error Rate
ryoushin '(my) parents'	3	21.4%
otousan '(my) father'	0	0%
ane '(my) older sister'	1	7.1%
kodomo 'child'	2	14.3%
ashi 'leg/foot'	0	0%
marui 'round'	5	35.7%
shikakui 'square'	7	50%
shatsu wo kiru 'to put on a shirt'	2	14.3%
yasete iru 'to be slim'	9	64.3%
shinsetsuna 'kind (personality)'	7	50%
Total	36	25.7%

5. Discussion

In this section, I will compare the overall results of the thematic experiments with those of the lexical experiments. I will also discuss issues mentioned in the previous section, drawing pedagogical implications for better vocabulary teaching.

5.1. Thematic vs. Lexical Sets.

The results of thematic and lexical experiments show that the error rate with vocabulary learned in thematic sets was 6.4 percent higher than that of learning vocabulary in lexical sets.

Table 5-1: Thematic vs. Lexical Sets

Thematic Sets		Lexical Sets	
Experiment	Error Rate	Experiment	Error Rate
Experiment 1	11.4%	Experiment 2	15%
Experiment 3	32%	Experiment 4	21.5%
Experiment 5	27.3%	Experiment 6	20.7%
Experiment 7	37.5%	Experiment 8	25.7%
Total	27.1%	Total	20.7%

Questions arise concerning this conflicting result with the previous studies suggesting thematic sets and what this study implies for a better vocabulary teaching methodology. In the following discussion, I will consider the design of the thematic presentation, course planning, number of new vocabulary items and thematic presentation, lexical presentation, and phonological and orthographical interference, and the questionnaire survey conducted afterwards.

5.2.1. Design of the Thematic Presentation

The results of the experiments suggest that a thematic presentation must be carefully designed in terms of the choice of words, arrangement in context, and ensuring learners' understanding of the items and paragraphs.

In the first experiment, two participants confused *tamago* 'egg' with *namano* 'raw' and *namano ninjin* 'raw carrot.' That was likely due to the paragraph containing them; the target vocabulary item was modified by the adjective 'raw,' which was an extra new word used to make the paragraph richer in meaning, and the preceding sentence included the same adjective modifying another new item, *ninjin* 'carrot.' That likely contributed to the lower acquisition of the item.

In the third experiment, one participant confused *kutsu* 'shoes' with *kutsushita* 'sock.' There could have been at least two factors involved in this interference; first, the two items were both new words that were similar to each other phonologically and semantically; and second, they were placed very close to each other in the context.

In the same experiment, nine participants failed to recall *shinshifuku uriba* (men's clothing department), with five of them leaving it blank, and the others answering with *reko-do uriba* 'music department.' Their poor learning of the item was perhaps due to the fact that three semantically similar items had been presented in the handout at one time; *shinshifuku uriba* 'men's department,' *reko-do uriba* 'music department,' and *kaban uriba* 'baggage department'. Hence, the last two items were also found confusing; three of the four participants that could not remember *reko-do uriba* 'music department' misinterpreted it as *kaban uriba* 'baggage department.' This clearly indicates that vocabulary items in lexical sets can be hard to learn even when introduced in context; vocabulary presentation should include as few similar items as possible.

In the fifth experiment, two participants confused *nani mo irimasen* 'don't need anything' with 'don't eat.' This failure to correctly learn the phrase was somewhat unexpected, and might well have been due to the fact that the phrase could be replaced with the erroneous one in the context with little change in meaning.

The errors considered above might have been avoided by carefully designing thematic presentations and making sure of learners' understanding of new vocabulary and paragraphs through meaningful post reading activities.

5.2.2. Course Planning

The results of the experiments suggest that course planning influences the achievement of vocabulary acquisition and that, ideally, grammar instructions and activities in class should be carried out in a way that minimizes the risk of interference of vocabulary learning.

In this regard, it is interesting to note that in the seventh experiment, on April 11, 2005, I presented the participants the 30 new items, including verbs of action (*megane wo kakeru* 'to put on glasses,' *boushi wo kaburu* 'to put on a hat,' *iyaringu wo suru* 'to put on earrings') and verbs expressing a resultant state (*~ni sunde iru* 'to live in~', *~ni tsutomete iru* 'to be employed at~', *kekkon shite iru* 'to be married'). On April 13, 2005, as grammar instruction, I taught the students how to express actions and resultant states in Japanese; the resultant state requires that a certain form conjugated from an action verb be followed by a Japanese equivalent of the copular verb in English. For example, the verb of the action, (*megane wo kakeru* 'to put on (glasses),') is conjugated into *kakete*, and it is followed by *iru*, so its resultant state is expressed this way: (*megane wo kakete iru*). After teaching that derivational process, I also had them use the construction in class and complete an assignment on the grammar over the weekend. This instruction is likely to have interfered with their successful learning of the target phrases: in the seventh experiment on April 18, 2005, eight participants confused *boushi wo kaburu* 'to put on a hat' with *boushi wo kabutte iru* 'to wear a hat' and two participants failed to recall *kaisha ni tsutomete iru* 'to be employed at a company,' confusing it with *kaisha ni tsutomeru* 'to become employed at a company.'

This confusion between actions and resultant states was found in the eighth experiment as well. Here, four participants confused *yasete iru* 'to be slim' with *yaseru* 'to lose weight' and one participant confused *shatsu wo*

kiru 'to put on a shirt' with *shatsu wo kite iru* 'to wear a shirt.'

Ideally, grammar instructions and activities should be planned parallel to vocabulary teaching so that they can be complement to each other without causing interference. To further this aim, grammar items sometimes should not be taught in the linear order that the textbook suggests, taking into account what vocabulary items are taught at the same time.

5.2.3. Number of New Vocabulary Items and Thematic Presentation

The results of the experiments suggest that the number of vocabulary items thematically introduced at one time influences learners' acquisition. In the seventh experiment, 30 new words were presented on April 11, 2005; the number of errors was 60, the highest error rate among the eight experiments.

A greater number of new words in the thematic presentation will be an inhibitor because it can result in students being overwhelmed with daunting reading tasks; this pressure may lead learners to decontextualize the items, thus lowering the possibility of successful learning.

5.2.4. Lexical Presentation

The results of the experiments indicate that vocabulary presentation with lexical sets can indeed trigger interference and that a lexical presentation should not be overestimated.

In the fourth experiment, a lexical set of four new vocabulary items was not successfully learned; one participant confused *~wo motsu* 'to hold ~' with *~wo toru* 'to take~' and another subject with *~wo motte iru* 'to own~.' One participant also confused *~wo toru* 'to take~' with *hako ni ~wo ireru* 'to put~ in a box.'

Another lexical set of new words in the same experiment was also

confusing to the subjects. Five participants failed to successfully recall *bunbougū uriba* 'stationery department'; two of them recalled it as *fujinfuku uriba* 'women's clothing department' and another as 'clothing department.'

In the sixth experiment, a lexical set of items was poorly learned. Seven participants failed to recall *youji ga aru* 'to have business,' with five of them leaving it blank and with one partially recalling it. Six participants failed to remember *douzo okamainaku* 'don't bother,' with four of them leaving it blank.

In the eighth experiment, learning *shinsetsuna* 'kind (personality)' was inhibited. Seven participants failed to remember it and one of them confused it with *akarui* 'cheerful,' another item in the same set.

Even though lexical vocabulary presentation was found slightly more facilitative than thematic vocabulary presentation in this particular study, clear evidence of interference can be observed; a lexical presentation can inhibit learners' vocabulary acquisition.

5.2.5. Phonological and Orthographic Interference

The results of the experiments suggest that (1) phonological and orthographic similarities among words can interfere with their acquisition even if they are presented separately and that (2) a long period of time between similar words should be provided.

In the second experiment, for example, two participants confused *ryouri wo shimasu* 'to cook' with *ryokou wo shimasu* 'to travel.' The two items may be said to be similar to each other phonologically and orthographically, and each of them was presented with the interval of only one week.

Another case of likely phonological and orthographic interference was found in the second and third experiments (the vocabulary presentation on February 21, 2005). *Yasashii* 'easy,' which was presented to the students on

January 10, 2005, triggered one participant to unsuccessfully recall *yasai* 'vegetable' in the second experiment and two participants to fail to remember *yasui* 'cheap' in the third experiment.

In the eighth experiment, one participant confused *shatsu wo kiru* 'to put on a shirt' for *jazu wo kiku* 'to listen to jazz,' which was presented on January 31, 2005.

To avoid such interference, similar items must be taught separately with sufficient intervals between them. Although it is not clear how long the interval should be, the results of the experiments suggest a reasonably long period of time should be provided so that learners can establish a solid understanding of an item before learning another in the same set.

5.2.6. Questionnaire Survey

In the last day of the class in the semester, I conducted a questionnaire (a copy of which is in the Appendix). Its main purpose was to see which vocabulary presentation method the participants found more meaningful in learning new words.

The survey reveals that seven of the 16 subjects preferred thematic vocabulary presentation to lexical vocabulary presentation; they found learning vocabulary more helpful and enjoyable.

Five participants found both of the instructions equally facilitative. Two of them thought that the sentence with a blank that follows each lexical set was helpful because it showed how to use new vocabulary items in a sentence.

Two participants favored the lexical vocabulary presentation over the thematic vocabulary presentation. One of the two remarked that sometimes she could not understand the paragraphs. The other described her preferred style as learning vocabulary items in lists.

The remaining two participants found neither of the vocabulary teaching methods helpful. One of the two said that learning vocabulary in context was frustrating and that learning related words together was difficult. The other said that it was sometimes hard to recall new words when they were presented thematically and that the lexical presentation was not very beneficial.

Overall, it was found that many of the participants regarded the thematic vocabulary presentation in a positive manner, even though, in this study, it was not actually as facilitative as the lexical vocabulary presentation. This may suggest that the teaching method is worth implementing given learners' affirmative attitude toward it, if the precautions mentioned above are followed.

6. Conclusion

In this project, having dealt with thematically and lexically related vocabulary items, I reported the results of the eight experiments that the lexical vocabulary presentation was slightly more facilitative in learning new words than the thematic vocabulary presentation. Considering the issues on the design of the thematic presentation, course planning, number of new vocabulary items, lexical presentation, phonological and orthographic interference as well as the results of the questionnaire survey, I discussed how vocabulary can be taught and learned more effectively.

Here, I would like to point out some limitations of this study. Even though one of the objectives of the experiments was to determine which type of vocabulary presentation was more facilitative in this particular study, it has to be noted that the thematic vocabulary presentation had to include a number of lexically similar words. That was due to the vocabu-

lary section in the textbook where new items are presented in lexical sets. Therefore, in a sense, the words used in the thematic presentation were not purely thematic because they were lexically related to each other.

Another limitation was that the results of the experiments should have been involved with some experiment-external factors. One such factor is that participations' motivation to learn vocabulary was not likely to have been consistent throughout the whole semester, which would have influenced the level of vocabulary acquisition. Indeed, the questionnaire survey revealed that one participant had been distracted from learning Japanese with personal matters and another had sometimes considered switching his major from Japanese to another field of study.

Also, the participants' experience of learning Japanese was likely to affect the results of the experiments. As I mentioned earlier, there were four subjects who had had more than one semester Japanese learning experience. Two of them performed better at the vocabulary quizzes when provided with lexical sets, which is seen in the table below:

Table 6-1: the Two Participants with More Japanese Learning Experience

Participants	Years of Learning	Error Rate	
		Thematic Sets	Lexical Sets
Student A	4 years	52.5%	27.5%
Student B	4 years	27.5%	10%

Another participant with six year Japanese learning experience mentioned in the questionnaire survey that she likes learning vocabulary in lists, although her results of the vocabulary quizzes indicate she was able to recall items better in thematic sets. As Nation (2000: 6) argues that lexical sets can have a more positive effect if learners have vocabulary well-

established, the experienced students' better achievement with and preference of lexical sets was likely due to their extensive Japanese learning background. This could have obscured the effect of the thematic and lexical vocabulary presentations on the beginning-level students that this project was to examine. Considering those two experiment-external factors, it has to be acknowledged that the presentation method was not the only factor affecting their vocabulary acquisition.

Nevertheless, a bright side of those issues is that they will help reflect vocabulary teaching and learning taking place in an intact, authentic foreign language classroom, which would be difficult to obtain in a more artificial, experimental context.

In conclusion, I would like to mention some questions left for future research. More classroom research needs to be carried out along the same lines of this project before generalizing the findings of this study. One of the important studies on vocabulary teaching will be how to better design a thematic vocabulary presentation and carry it out in a beginning foreign language class. In order to increase the level of vocabulary acquisition, it has to be carefully considered how to arrange new items in the reading paragraph, how many items to be optimally included, and how to conduct a meaningful post reading activity. Since the thematic vocabulary presentations in this study could be improved in those terms, it will be interesting to conduct the same type of research with a better organized thematic vocabulary presentation and to examine its effect on students' achievement. It also has to be clarified how long a time interval should be provided when two similar items are taught separately (an issue discussed by Nation (2000: 9)). This question is of considerable significance since this project found cases where phonological and orthographic interference occurred even after similar items were introduced independently of one another with a long

period of time intervening them. Answering those questions will contribute to a better understanding of the teaching and learning of vocabulary.

Appendix: Vocabulary Handouts and Questionnaire

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Chapter 7

New Vocabulary 1

Read the following paragraphs and look up the underlined words / phrases.

1. へんな さかな (A Strange Fish)

はじめまして。ぼくの なまえは すずきです。ぼくは さかなです。ぼくは まいにち かわで およぎます。ミシシッピーがわ¹ で りょこうを します。ミネソタでは トマトを たべます。ルイジアナでは ワインを のみます。ルイジアナの ジャズが すきです。メキシコわん²の ちかくで エア ロビクスを します。ぼくは へんな³ さかなです。

1. ミシシッピーがわ : the Mississippi 2. メキシコわん : the Gulf of Mexico
3. へんな : strange

2. くわな せんせい (Professor Kuwana)

くわな せんせいは にほんごの せんせいです。とても いそがしいですから、あまり ねません。ですから¹ いつも コーヒーを のみます。くわな せんせいは にほんの カラオケ²が すきです。カラオケでは にほんの ポップスの うたを うたいます。マンシーの カラオケには にほんの う

たが ありませんから、ざんねんです。テレビは あまり みませんが、フットボールは みます。いっかげつに いっかい インディアナポリス³に ドライブに いきます。A1で にくを かいます。

1. ですから：Therefore
2. カラオケ：karaoke
3. インディアナポリス：Indianapolis

3. アリスさんの にほんの せいかつ (Alice's Life in Japan)

こんにちは。わたしは アリスありさかです。じょうとうだいがくの りゅうがくせいです。わたしの かれし¹は イギリスじんです。わたしは いつも かれしと こうちゃをつくります。バナナの ケーキも つくります。ときどき かれしと こうえんで あそびます。こうえんでは テニスを します。にほんの ほんも よみます。わたしの にほんの せいかつは とても たのしいです。

1. かれし：boyfriend

4. アメリカじんの すきな もの (American's Favorite Things)

アメリカじんの すきな ものは なんですか。なま¹の にんじんは すきですか。なまの たまごは きれいですか。バスケットボールと ゴルフと どちらが たのしいですか。アメリカじんは よく ファミコンを しますか。アメリカの DDR²に クラシックは ありますか。

1. なまの：raw
2. DDR：Dance Dance Revolution (a video game)

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Chapter 7

New Vocabulary 2

Fill in the blank with each of the words in the box and read the sentence aloud.

A. たべもの

やさい	オレンジ	くだもの	りんご
レタス			

わたしは スーパーで _____ を よく かいます。

B. のみもの

ビール	コーラ
-----	-----

わたしは あさ _____ を のみます。でも ワインは のみません。

C. スポーツ

スキー	ジョギング	ボーリング	ハイキング
やきゅう			

わたしは _____ を するのが きれいです。

D. おんがく

ギター

ロック

_____ って なんですか。

E. レジャーと しゅみ

おんがくを きく

コンサートに いく

えを かく

りょうりを する

やまの しゃしんを とる

レストランで しょくじを する

パーティを する

おいしい りょうりを たべる

わたしは しゅうまつに _____ のが すきです。

Japanese 102-003

Chapter 8

New Vocabulary 1

Read the following paragraphs and look up the underlined words / phrases.

1. くわなせんせい (Professor Kuwana)

くわなせんせいは きんようびに パーティに 行きました。パーティには たくさん ひとが いました。みんな¹ すてきな ふくを きていました²。でも、くわなせんせいは いつもの³ ふくを きていました。^{にほん}日本の ジーンズ と ナイキの くつでした。くつしたには あな⁴が ありました。

らいしゅうの パーティには もうすこし いい ふくが ひつよう⁵です。ですから⁶、どようびに マンシーモール⁷で ズボンを かいました。マンシーモールのレコードうりばにも 行きました。ダンス⁸の CDを かいました。

1. みんな : everyone
2. きている : wear
3. いつもの : usual
4. あな : hole
5. ~が ひつよう : need~
6. ですから : therefore
7. マンシーモール : Muncie Mall
8. ダンス : dance

2. アリスさんの ^{にほん}日本の せいかつ (Alice's Life in Japan)

わたしは きのう デパートに いきました。かれし¹に バレンタイン²の
プレゼント³を かいました。きのうは とても さむい⁴ ひ でしたから、
セーターを きました⁵。ネックレスは ひつようじゃなかったです。さいしょ
に⁶ かばんうりばに いきました。やすい ハンドバックは ありましたが、
いいのは ありませんでした。つぎに⁷ しんしふくうりばに いきました。す
てきな ベルトが ありましたから、それを かいました。てんいん⁸が そ
れを つつみました。

アリスさんは うちに かえりました。うちで、ベルトを はこから だし
ました。そして、かれしに それを みせました。わたしと かれしは ラブ
ラブ⁹です。

- | | |
|-------------------------|---------------------|
| 1. かれし：boyfriend | 2. バレンタイン：Valentine |
| 3. プレゼント：present | 4. さむい：cold |
| 5. ～を きる：put on～ | 6. さいしょに：first |
| 7. つぎに：next | 8. てんいん：salesclerk |
| 9. ラブラブ：love each other | |

Japanese 102-003

Chapter 8

New Vocabulary 2

Fill in the blank with each of the words in the box and read the sentence aloud.

A. ようふくと アクセサリー (Clothing and accessories)

スカート	パンツ	コート	Tシャツ
ジャケット	ネクタイ	かさ	シャツ

はこから _____ を だして ください。

B. ^{おお}大きさ、りょう、ねだん (Sizes, amounts, and prices)

たかい	すこし	もっと
-----	-----	-----

わたしは マンシーモールで _____ ふくを かいました。

C. かいもの (Shopping)

～を とる	はこに ～を 入れる	～を もつ (dynamic)
～を もっている (static)		

かばん _____ ください。

D. うりば (Departments in a department store)

ふじんふくうりば

しょくひんうりば

アクセサリーうりば

ぶんぼうぐうりば

アリスさんは _____ に いました。

Japanese 102-003

Chapter 9

New Vocabulary 1

Read the following passages and look up the underlined words / phrases.

1. くわな先生 (Professor Kuwana)

くわな先生は たべるのが すきです。マンシーの レストランの中で King's Buffet が 一ばん すきです。ときどき ともだちと いっしょに いきます。King's Buffet は ちゅうかりょうりの レストランです。そこには チャーハンや たまごのスープが あります。うなぎ¹の すしも あります。日本の ビールは ありませんから、いつも みずを のみます。デザートは なんにも いりません。あまいもの²は あまり すきじゃないんです。

1. うなぎ: eel

2. あまい もの: sweet things (=sweets)

2. アリスさんの 日本^{せい}の 生かつ (Alice's Life in Japan)

アリスさんと アリスさんの かれしは パーティーを します。三がつ二十一日は アリスさんの たんじょうび なんです。アリスさんと アリスさんの かれしは イタリアりょうりが すきです。ピザが 大すきですが、日本の ピザは 小さいです。そして、とても たかいですから、アリスさんの かれしが りょうりを します。サンドイッチと サラダを つくります。ア

リスさんは たんじょうびパーティーに ともだちを よびます。きのう、リーさんに でんわを かけました。

アリス：わたしの アパートで たんじょうびパーティーが あるんですが、きませんか¹。

リー：ええ、ぜひ。なんじから ですか。

アリス：七時^じから です。

リー：七時^じから ですか、、、 ちょっと つごうが わるいんです。七時半^{じはん}に いっても いいですか²。

アリス：いいですよ。

リー：ありがとう。じゃあ、ぼくは そばを つくりますね。

アリス：オッケー、のみものは ジュースと おさけが ありますよ。

リー：はい、わかりました。じゃあね～！

1. きませんか：verb stem (ます form without ます)+ませんか

Why don't you come?

2. いっても いいですか：て form+も いいですか。

lit. May I go there? (=May I come?)

Japanese 102-003

Chapter 9

New Vocabulary 2

Fill in the blank with each of the words in the box and read the sentence aloud.

A. ちゅうもんする もの (Things to order)

1. たべもの (Things to eat)

さしみ	てんぷら	うどん	ラーメン	カレーライス
スパゲティ	ステーキ	ハンバーガー	Aランチ	

いっしょに _____ を たべましょう。

2. デザート (Dessert)

ケーキ	アイスクリーム
-----	---------

_____ に します。

3. のみもの (Things to drink)

ミルク	おちゃ
-----	-----

_____ を ふたつ おねがいします。

B. せかいの りょうり (Dishes from around the world)

わしょく / ^{にほん}日本りょうり

フランスりょうり

A: どの レストランに しますか。

B: _____ の レストランに します。

C. しょうたいの ことば (Inviting)

1. しゃこう (Socialization)

ともだちに あう

パーティーに ^{せんせい}先生を しょうたいする

こんしゅうの きんようびに、_____ ませんか。

2. ことわる (Declining)

ようじが ある

どうぞ おかまいなく

いいえ、けっこうです

A: どようびに パーティーに きませんか。

B: すみません。_____

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Chapter 10

New Vocabulary 1

Read the following paragraphs and look up the underlined words / phrases.

1. くわな先生 (Professor Kuwana)

くわな先生は 六月に 日本に かえります。アメリカから 日本までの
フライト¹は とても ながいですから、大きらいです。

日本に かえってから²、ねむろ³に いきます。くわな先生の ごかぞくが
ねむろに すんでいるんです。くわな先生の お父さんは かいしゃに つと
めています。ときどき めがねを かけます。お母さんは しゅふ⁴です。とて
も りょうりが じょうずです。お兄さんは けっこんしています。げんきな
お子さんが ふたり います。お兄さんの おくさんは せが ひくい人^{ひと}です。

くわな先生は さっぽろ⁵にも いきます。くわな先生は かおが ひろい⁶
ですから、ともだちに あいに いくんです。

くわな先生は 日本で しごとを さがします⁷。しごとを さがすのは た
いへんですから、くわな先生は あたまが いたいです⁸。

1. フライト：flight
2. 日本に かえってから：After returning to Japan
3. ねむろ：Nemuro (Kuwana's hometown)
4. しゅふ：housewife
5. さっぽろ：Sapporo (a city where Kuwana used to live)

6. かおが ひろい : (*literally*: face is large.) to associate with a lot of people
7. ～を さがす : to look for～
8. あたまが いたい : (*literally*: head hurts) to have headache

2. アリスさんの ^{にほん}日本の ^{せい}生かつ (Alice's Life in Japan)

アリスさんは ^{さんがつ}三月に ^{だいがく}じょうとう大学を そつぎょうしました¹。そして、アメリカに かえりました。

そつぎょうしき²には アリスさんの おじいさんと おばあさんが きました。アリスさんは とても よく 日本語が わかります。そして、やさしい ^{おんな}女の子^こですから、おじいさんと おばあさんは はなが たかいです³。

そつぎょうしきでは、アリスさんは とても かわいかったです。^{にほん}日本の そつぎょうしきでは ぼうしを かぶりません。でも、アリスさんは ほそながいイヤリングを しました。

アリスさんは おじいさんと おばあさんと いっしょに アメリカに かえりました。くうこう⁴には アリスさんの ごきょうだいが きました。アリスさんの おとうとさんと いもうとさんです。

アリスさんは アメリカで ^{みらい}みらい⁵の ごしゅじんを さがします⁶。アリスさんは きれいですから、みらいの ごしゅじんを さがすのは たいへん じゃありません。

1. ～を そつぎょうする : to graduate from～
2. そつぎょうしき : Commencement
3. はなが たかい : (*literally*: nose is high.) to be proud of someone
4. くうこう : airport
5. みらい : future
6. ～を さがす : to look for～

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Chapter 10

New Vocabulary 2

Fill in the blank with each of the words in the box and read the sentence aloud.

A. 家族 (Family)

1. Your own family (Humble form)

かぞく 家族	ちち 父	はは 母	りょうしん りょうしん	あに 兄	あね 姉	おとうと 弟	いもうと 妹
きょうだい 兄弟	そふ そふ	そぼ そぼ	しゅじん／おっと しゅじん／おっと		かない／つま かない／つま		こども 子供

この しゃしんを みてください。これが 私の _____ です。

2. 子供

おとこ こ 男の子

_____ は ゴジラが すきです。

B. からだ (The body)

からだ	あたま	て 手	あし 足	め 目	みみ 耳
-----	-----	--------	---------	--------	---------

わたしは _____ が わるいです。

C. かおと からだを あらわすことば (Physical appearance)

1. Height

せが たかい

はなが ひくい

石田さんは _____ です。

2. Shape

まるい

しかくい

すずきさんの かおは _____。

3. Length

みじかい

あの ^{ひと}人は ^{あし}足が _____。

D. きるものに つかうことば (Verbs used with clothing)

とけいを する

シャツを きる

スカートを はく

くつを はく

アリスさんは まいあさ _____。そして、^{がっこう}学校に いきます。

E. どうし (Verbs)

1. Change of state

ふとる	やせる	けっこんする	～に すむ
かいしゃに	つとめます		

わたしは らい^{ねん} _____。

2. Resultant state

ふとっている	やせている
--------	-------

その いぬは _____。

F. せいかくと のうりよく (Personality and ability)

しんせつ (な)	あかるい	あたまが いい
----------	------	---------

くわな^{せんせい}先生は _____ です。

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Self Reflection

1. Why did you decide to take this class? For your major? For your future profession? For curiosity? For fun? Be specific.
2. Do you think the motivation for learning Japanese has changed throughout the semester? How? Be specific.
3. What do you think about learning vocabulary in context? Was it helpful? Enjoyable? Frustrating? Be specific.
4. What do you think about learning vocabulary categorized into small groups and memorizing words through substitution drills? Was it helpful? Enjoyable? Frustrating? Be specific.
5. Do you have your own way to memorize vocabulary? Do you like to invent mnemonics (memorization trick)? Do you try to remember new words by saying them aloud? Do you like to use index cards? Be specific.

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