

Reflective observations of a self-study Japanese vocabulary acquisition and literacy development program using mobile learning technology.

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Abstract

This interim report describes a vocabulary acquisition and literacy development program for the study of Japanese. The program utilizes a list of Japanese vocabulary words from level 3 and level 2 of the Japanese Language Proficiency Test, example sentences using those words, two word card software applications for a mobile computing device and a weekly test of the target vocabulary. This program was observed through eight weeks of a learning journal which is included in the report.

I . Introduction

The understanding of words is essential to being functional in a language. Becoming functional in Japanese is especially difficult as Japanese is written with a combination of three scripts with one being a complicated script known as kanji. A curriculum which facilitates the acquisition of Kanji can be enhanced with software for mobile technology. This interim report describes a vocabulary acquisition and literacy development program for the study of Japanese and presents observations over the period of eight weeks of study.

II . The Curriculum

1. Target vocabulary

This curriculum consists of 2920 words (kanji compounds) that appear in the level two of the Japanese Language Proficiency Test (JLPT). These words are used in sentences taken from the textbook 『例文で学ぶ漢字と言葉』 (Reibun de Manabu Kanji to Kotoba). These sentences are

constructed to serve as examples of each word. During the eight weeks under observation, the author studied vocabulary items from eight units of the textbook (units 42 through 50) which contained 361 words illustrating the usage of 59 kanji. The kanji were sequenced in order of their kana reading.

2. Weekly procedure

Each unit was studied over a period of one week. First, the example sentences were read. Target words, as well as words where the subject could not immediately recall a meaning, were looked up in an online Japanese to English dictionary. The unknown words not on the target list were highlighted and the meanings glossed in the margin. The target words were placed in a learning list and exported to a variety of electronic formats using a variety of computer applications. The word list was drilled four times using two flashcard applications for a personal data assistant (PDA). Finally, the recall of the meaning and readings of the target words were tested by reading the example sentences again and writing the meaning and reading for the target words.

3. Study aids

Two flashcard programs for mobile devices were used to review the target word lists: Declan Audio Flashcards (Japanese) and Kingkanji. Declan Software Audio Flashcards (Japanese) consists of a learning list review and series of recall tasks. The first three tasks are multi-choice (mc) tasks where a prompt is supplied and the user is required to choose the correct answer from a choice of five possible answers. In the word mc task, the program supplies the word and the user must guess the meaning; In the meaning mc task, the program supplies the meaning and the user must guess the word; In the listening mc task, the program reads the word aloud and the user must guess the meaning. To remove the word from the review list, the user must answer correctly in these three mc tasks as well as the grid search task. In the grid search task, the program supplies the meaning and the user must construct the word from 28 randomly arranged characters.

Kingkanji is a more traditional flashcard application in which the program supplies the word's meaning, reading and/or kanji (depending on the user's preferences) and the user must write the word's meaning, reading and/or kanji (depending on what piece was not supplied by the program). After each attempted word recall, the user selects either correct or incorrect for that recall. If correct, the word is removed from the list of items to be drilled. If incorrect, the word is placed on the list again. Words stay on the list until the missing meaning, reading, or kanji is written correctly. Additionally, Kingkanji shows an animated tutorial of stroke order for the Japanese kana and approximately 1000 kanji.

Words were reviewed four times during the week. The first two times were in Declan Audio Flashcards. The first time through, the software was set to kana mode where the kana-meaning

connection was reviewed. The second time through the list, the software was set to kanji mode where the kanji-meaning connection was reviewed. The words were reviewed for the third and fourth time in Kingkanji. The first time through Kingkanji drilled the recall of the meaning from the supplied kanji, and the second time through Kingkanji drilled the recall of reading from the supplied kanji.

4. Journal methods

Records and reflections were kept during the week. The memo function of the PDA was used to record records and reflections while reviewing the word lists. Data included the location of study and reports on words correctly and incorrectly recalled during the drills and tests. Meta-cognitive questions on the problems and solutions, observations and their ramifications, opportunities for change, advantages and weaknesses and learning insights and occurrences prompted reflections on the curriculum and study methods during the eight weeks of observations.

III. Journal observations and reflections

1. Week 01 - Unit 43

This week I was able to proceed normally through the creation of the vocabulary list, the four passes of the vocabulary list and the week ending test. I created the list at home, drilled in the school library and while commuting on the train. I tested the recall of the items in a hotel lobby. Each step of the process took several hours each, with the exception of each pass of Kingkanji which took about 45 for each pass.

I had to allot a reasonable amount of time to prepare the working lists to drill each week. I noted that reviewing the example sentences, making glosses, and transferring the target words to the lists readable by the flashcard applications took several hours. When comparing this amount of work to simply reading the sentences with the aid of a dictionary, the time differential is not so great. Also, the advantage of having the words to convert to study materials makes the moderate amount of extra time invested pay a considerable dividend in study opportunities.

There was also a very complicated procedure for making the lists accessible on the pda that required four computer applications to prepare. The procedure noted included making the list in Declan WordCreator Pro, using the desktop version of Declan Japanese Flashcards to export the word list, converting the format of the list in Microsoft Excel and Word to work in Kingkanji. However, this amount of work at the beginning allows the student advantages over a pen-and-paper method. The time it takes to convert the word list, no matter the size, from one electronic format to another is static. If a word list is 5 words or 500 words, the time to change formats is the same. For example, making three variations of the same list of pen-and-paper flashcards will take

90 minutes, if making one set takes 30 minutes. Even if making the one set of electronic word list flashcards takes 30 minutes, making three versions of the same list will only take 35 or 40 minutes. A huge time savings is an incentive to review the same list in a different format.

2. Week 02 - Unit 44

This week I was able to proceed normally through the creation and processing of the curriculum. I created the list at home, drilled in the school library and while commuting on the train. I tested the recall of the items in a hotel lobby.

The recognition tasks included by Declan Audio Flashcards are beneficial. Declan software had three different recognition tasks while reviewing the learning list. Combined with the learning list review, one will review each item at least four times before being asked to recall the item from memory. The learning list review shows the kanji, kana, meaning and plays the audio pronunciation simultaneously. In order to process each of these modalities individually, the tasks allow the user to focus on each modality separately. Since the tasks force the user to identify which choice is correct, the user is aided in recall and adds a game-like element to add enjoyment to a potentially simple recall task. The same game-like element is also present in the final grid search task. The task tests recall, but adds the amusement (or frustration) of a word-search to the recall. Incorrect recall of the word has the potential to be frustrating, but correct recall can add an increased sense of satisfaction to recalling the word.

3. Week 03 - Unit 45

This week's biggest problem was a time crunch which I didn't budget in for. I didn't get to making my learning list until Thursday (the day after I was supposed to) and I only had time for three of the four passes through the vocabulary list. I decided to focus on the two passes through the Declan audio flashcards and only one pass through the Kingkanji list

The audio file of Declan is accessible in all the tasks except for the grid search. In the learning list review, the audio file serves as input to connect to the kanji, kana and meaning of a word. The file also provides on-demand help to the word and meaning tasks. As a little button with the icon of an ear is in the corner of the tasks, the user can hear the file at any time. If played before the choice is made, hearing the file can potentially aid the user in choosing the right answer from among the possibilities. If played after the choice is made, hearing the file can serve as reinforcement of the connection between the meaning and the written representation of the word.

4. Week 04 - Unit 46

This week I was still behind in keeping up with the timeline of my study, so I rushed through the four passes of the vocabulary list. I decided to do the two passes of the list with Declan over the weekend. On Saturday I did the kana version of the list and on Sunday I did the kanji version on the list. I did the two passes of the list with Kingkanji on Monday, the day before the test.

Having multiple methods of drilling the connection between kanji, kana and meaning was essential. Since Japanese has both an orthographic way of writing (kana) as well as an iconic way of writing (kanji), both forms are necessary to understanding written Japanese. In order to drill all connections of each word, kanji, kana, meaning and pronunciation, each word must be drilled multiple times. Using two software applications in conjunction with one another was necessary to test the six possibilities of knowing a word. Declan Audio Flashcards (Japanese) allows the user to select either kana or kanji mode when drilling the word list. Thus, the connection between meaning and kana as well as the connection between meaning and kanji could be drilled. Kingkanji allows the user to choose which elements to use as prompts, and which elements to test. Thus, the connection between kanji and kana is drilled and the connection between kanji and meaning is reinforced.

5. Week 05 - Unit 47

This week I was still recovering from the time crunch of the previous weeks. I solved this time crunch by putting off some other tasks even though the other tasks were urgent in their own right in order to put the next week in the proper time schedule. Since drilling the words in Declan takes the most time, between 90 to 120 minutes, I drilled the kana mode on Saturday and drilled the kanji mode on Sunday. After having completed the wordlist in Declan twice, drilling through Kingkanji took less time, between 15 to 30 minutes each pass. I drilled Kingkanji in terms of recalling meaning on Monday morning and drilled Kingkanji in terms of recalling kana on Monday afternoon. Having completed all four passes of the study items before Tuesday, I was able to test myself on Tuesday as is its scheduled time.

The tutorial function of the writing of kana and kanji in Kingkanji was an aid to remembering how to read Japanese. Kingkanji gives a pop-up animation for writing the kana and 1000 of the kanji if one of those characters are in the word list. Having these tutorials is beneficial when being unable to recall how to write a character. When kana is being quizzed, sometimes the user will recall the wrong character and write the wrong answer on the drawing pad. After the correct answer is shown, the user can view the animation to practice the right answer. When two kanji are very similar, and the wrong reading or meaning is recalled for the kanji being prompted, the user can view the kanji being drawn and compare them mentally to see if a similar kanji is being recalled instead of the correct answer.

6. Week 06 - Unit 48

This week was again a week behind schedule. I set-up the flashcard files on the Saturday morning and began to start my runs through the flashcard drills the Saturday evening. I did not have a block of time to do the Declan drills in one day, so I started in the evening and finished the second part of the drills the next morning. On Monday, I finished the Declan kanji drills and the Kingkanji meaning recall in the afternoon. The meaning recall went quickly, and I did the Kingkanji drills in about 30 minutes. This left Tuesday to do the Kingkanji kana recall drills and I took the week end test for Wednesday morning.

One danger of learning vocabulary is sequential learning. The example sentences were grouped together by kanji, but not necessarily in order of reading. Declan chose learning lists of 10 words in sequential order and added words in sequential order to replace words removed from the learning list. However, those 10 words were tested in random order. Kingkanji has the option to randomize the words when being drilled. The problem of list-based learning is still present, since the lists are not mixed by the program but the risk of sequential learning is minimized by drilling recall in a random order with the two applications.

7. Week 07 - Unit 49

This week I was basically on my adjusted schedule with the study lists prepared by the end of the week, the Declan audio flashcards drilled on the weekend, the Kingkanji flashcards drilled during the first part of the week and my recall tested in the context of the sentences on Thursday.

Week ending tests results were pretty consistent with the scores from the two passes with Kingkanji. Usually around 70 percent of word meanings and 80 percent of kana readings were recalled when reading the sentences after drilling the words through the Declan and Kingkanji exercises. The higher percentage of kana readings can potentially be attributed to drilling the kana readings after drilling the meaning recall. Also, it could be attributed to the presence of audio files which mimic the readings in terms of pronunciation.

8. Week 08 - Unit 50

New year's holiday slowed study considerably. I created the study lists before I went on a trip for the holidays. I drilled the Declan audio flashcards during the week away, taking spare moments to drill the words bit-by-bit. Upon returning home, I drilled the Kingkanji lists and tested my recall from the example sentences over three days.

Each of the words was seen at least eight times over the course of a week before being tested in

the context of an example sentence. From once while making the study list, through five times (or more) during its path through the Declan drills, continuing through two (or more) times through the Kingkanji drills, each word got intensive treatment over the course of the week. This treatment should give a good base for long-term retention of a word studied in this fashion. Further exposure to the word at a later time is probably necessary. Periodically review should be built into the curriculum to ensure that words are retained for long-term understanding.

IV. Discussion

The main purpose of this interim report was to describe the curriculum for learning Japanese vocabulary and present some reflective observations on the use of flashcard applications for mobile computer technology. These observations are restricted to the personal experience of the author and the outcomes of this curriculum should be put through a more rigorous investigation. Of interest would be comparisons of these observations against the published literature on vocabulary acquisition, with or without the aid of computer technology. Also of interest is comparison of this curriculum versus a different curriculum with the same ends. Outcomes of the curriculum against a standardized test, such as the Japanese Language Proficiency Test, would be welcome.

V. References

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