

## **Jigsaw Reading to Promote Autonomous Learning**

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### **1. Introduction**

In order to improve reading proficiency in intermediate and advanced levels, it is necessary to expand knowledge about language such as vocabulary and expressions as well as knowledge of background information such as culture. Equally importantly, it is indispensable to learn how to find information about language and background required for comprehension. It is also critical to learn such skills so that students would read to pursue their own goals, rather than simply fulfilling class requirements, considering later occasions in which they need to read for their own purposes without outside assistance. This paper reports how jigsaw reading was used as one of the steps leading to development of reading proficiency and autonomous learning. It also reports on student responses to a questionnaire after the reading.

### **2. Environment and Motivation of the Reading Activities**

The project of reading activities this paper reports on was conducted in the spring semester of a second year Japanese language course in a liberal arts college. Most students stay until the end of the second year, partly because currently a language level of four semesters is required for graduation. The Japanese language program belongs to the Department of Asian Studies, in which students can major or minor in Japanese Studies. Major students write senior theses about their own topics focusing on literature. Therefore it is desirable for them to be able to read authentic materials and to organize discussions about them without outside assistance. Those who do not major may need to continue further learning by themselves, for example, when they meet Japanese people in working situations. For those students, too, it is desirable to be able to find, read and discuss appropriate materials written in Japanese by themselves. One important goal at the end of the second year is preparation for studying for oneself outside the class and after graduation.

In this environment it is critical to plan the entire curriculum for students to develop reading proficiency from tailor-made materials prepared under the tight restriction of grammar, vocabulary, and Kanji use to literature pieces, for instance, written by great authors or journal articles from a variety of fields that are available only in Japanese. It is also important to be able to describe and discuss the content of what they have read. At the same time, it is necessary to promote autonomous learning so that they can pursue what they need to learn rather than remaining in a passive learning mode, such as waiting for a list of items to learn.

There are many micro skills involved in reading by oneself: parsing sentences reasonably, finding word boundaries, figuring out missing elements of the sentence, retrieving dictionary forms from different conjugation forms, finding Kanji readings, using dictionaries to know the meaning of vocabulary, gaining correct interpretations based on contexts or pragmatics. Having a good command of these micro skills, readers need to maintain the flow of the story for a relatively long piece, specifically, longer than typical textbook reading materials, while reading. Textbooks generally give readers aids such as Kanji readings and vocabulary lists with meanings. This kind of textbook structure causes students to rely on the lists too long. This inhibits autonomous learning.

The motivation for this project is to provide opportunities to learn a few of those micro skills above without separating from learning the content before the language requirement is completed. The main goals are: (i) becoming aware of what skills are necessary for reading, (ii) reading by oneself, and (iii) learning autonomously. The project was conducted in the spring semesters in 2008 and 2009. In order to enhance students' motivation of reading, authentic material was used and some adjustment was applied.

### **3. Framework for Implementation and Methods**

In order to set the goals for the second year classes, the National Standards and ACTFL Proficiency guidelines were considered. For consideration of developing autonomy, the definition of autonomous learners in Little (2003) was consulted. The method used was jigsaw reading.

The National Standards (2006) set five elements that should be taught in foreign language classes: Communication (interpersonal, interpretational, presentational), Culture (practice-perspective, product-perspective), Connection (other disciplines and viewpoints), Comparison (language, culture), and Community (beyond the school setting, life-long learning). This project focused on Communication and Connection. Reading the selected material develops interpretational communication skills, and other activities such as recording, discussion, and summarizing are added to develop interpersonal and presentational skills. Selection of the material reflects Connection by choosing the topic of child development.

According to the ACTFL Reading Proficiency Guidelines in Omaggio Hadley (1993), reading simple straightforward description or narration is required at Intermediate levels. In Advanced levels reading short stories and news items with some abstract, complex, or unfamiliar content is required. The class for this project should be able to handle intermediate level materials quite easily and to attempt to read a short story that may have abstract or unfamiliar content to some extent.

A primary purpose of this project was to promote autonomous learning. Little (2003) argues why autonomisation is preferable in learning a language and defines autonomous learners, and states that "the practice of learner autonomy requires insight, a positive attitude, a capacity of reflection, and a readiness to be proactive in self-management and in interaction with others."

Each of five traits Little described were implemented implicitly, in other words, learning autonomy was not particularly emphasized as a goal in class. First, to encourage insight, a topic was selected that would interest students and elicit various opinions about it. Second, for having positive attitudes, immediate goals as well as future goals of various skills were shown. Immediate goals were, for example, to find Kanji reading and meaning of vocabulary in simple ways and to read a small portion of a story. Further goals were, for example, to reach the native speaker's writing fluency and to read the entire story. Third, for having chances for reflection, assignments were given to encourage them to monitor their own performance and compare to that of native speakers. Fourth, for meeting their readiness, the method of jigsaw reading was adopted in order to reduce the burden for each student and have them attempt to read with confidence. Lastly, for having interactions, activities besides reading, which is basically interpretational skill, were prepared to use presentational and interpersonal skills in and outside the classroom. In addition to considerations of the traits of autonomous learners, the project was not subjected to grading. No due date was set, no schedule for this project was given, and nothing was counted into grading. One object was to see how motivation would arise (or not arise) without incentives from grading.

Practice of jigsaw reading is found in many previous studies. A summary of Dong's (2004) definition of jigsaw reading is: Each student reads a part among parts that the teacher has divided a passage into, and retells the content of his/her own part in the group so that all members can grasp the whole picture. It involves filling information gaps through interactions, which requires interpersonal communication skills and logical thinking if the pieces are scrambled (p. 128). Various advantages to this method have been reported (Dong 2004, Hess 2001, Matheson 1999, Lai, Angel 2008, Mitchell et al. 1996, and others). For language teaching, jigsaw reading helps students develop logical and deeper thinking, and communication strategies such as asking for confirmation or clarification, and to reduce the burden of each student. It accommodates students with various levels and class sizes. Psychological advantages are also reported such as to facilitate collaboration, to enhance a sense of responsibility, and to provide a sense of individual achievement and group achievement. Slavin (1984) states that the setting which is most effective for students to learn cooperatively is a competition among groups in which all the members' contributions directly reflect the accomplishment of the group. In jigsaw reading, information from all the members contributes to understand the whole story, so it is very desirable as a group activity.

At the end of the semester, a questionnaire was distributed in order to find out how they did the activities and what they thought about the project.

#### **4. The Material and Procedures**

The reading material selected was "Sora Tobu Mahô no Hôki [A Magic Flying Broom]" written by a journalist on multiculturalism. The title may remind one of the famous animation movie "Majo no Takkûbin [Kiki's Delivery]," so it was expected to attract students. It is not, however, a story for children at all but is an essay about children from an adult perspective. The author attended an academic conference about study of children. When one of the attendees commented that an imaginary world is important for children besides the real world and a virtual world (as in computer games), she recalled that her daughter wanted to fly on a broom in the sky. She described how her daughter got a bamboo broom and talked about flying with the shop owner, who respected her daughter's imaginary world. The essay lasts 4 pages; the first page introduces the situation at the conference, the rest is her daughter's episode, except for the last two lines, which constitute her conclusion.

Before reading, the instructor told students that they were going to read an essay, which is an authentic material, while practicing using Kanji and vocabulary dictionaries.

At the actual reading, the instructor first copied the introduction part by handwriting on the chalkboard in class. This was to show a native speaker's writing fluency and handwritten text to the students, who have fewer chances to see those compared to listening to native speakers' speaking fluency and pronunciation. It was expected that students would reflect on their own writing fluency and see what they can aim for as autonomous learners. Next, the instructor started reading the text aloud, pretending to be a student. When it came to points that might confuse students such as unknown vocabulary and grammar, Kanji reading or cultural issues, explanations of how they could solve the confusion were given. Mastering the use of traditional dictionaries was not a primary purpose of these activities, so IME pad<sup>1</sup> in Word (on Windows) and Kanji Rakubiki Jiten<sup>1</sup> on Nintendo DS were introduced to find Kanji readings, and students were encouraged to use electronic dictionaries or online dictionaries. Points such as importance of particles, finding word boundaries, and retrieving missing phrases were explained briefly. An English translation of the introduction part was given after completing the reading of it.

Next, the episode part except for the ending was divided into pieces according to the number of the students in class (10 in 2008, 14 in 2009) and given to students at random. Each piece consisted of 3 to 6 lines. They were told to read by using the tools and tactics introduced earlier, and come up with a short sentence or a phrase that summarizes the content of their own pieces to discuss at a later day. They were also told to record their own pieces on Wimba,<sup>2</sup> and to send them to the instructor. When students sent their recordings, the instructor listened to them, recorded their pieces as models, and sent each as a reply with a one-word comment such as "Good!" and a suggestion to listen to the models and re-record their pieces again if they would think they could improve the reading. No due date was set, so a reply was sent every time someone sent his or her recording. An announcement was made in class so that they knew those who sent their recordings received replies with model recordings and they were encouraged to listen to the models and re-record.

After a few days, the students were asked to give summary phrases in class. Those phrases were written on the chalkboard and students discussed them to figure out the order of the pieces. The phrases were somewhat like the following:

店をさがす "look for a shop"  
600円 "600 yen"  
ほうきを見つける "find a broom"  
ほうきがほしい "want a broom"  
ほうきを運ぶ "carry a broom"  
店でさがす "look for at a shop"  
空を飛ぶ練習をする "practice flying in the sky"  
店のおじさんは若い "the shop owner is young"  
ほうきを買う "buy a broom"  
おじさんが質問する "the man asked"

The last piece ended in the middle of a sentence, immediately after the girl's answer to the shop owner's question, "What are you going to use the broom for?" The first piece was figured out with a common knowledge of the typical beginning of a story; telling time and location. It was emphasized to pay attention to particles and have shortest phrases with critical points only. The summary phrases were easily rearranged through discussion into:

空を飛ぶ練習をする "practice flying in the sky"  
ほうきがほしい "want a broom"  
店をさがす "look for a shop"  
店でさがす "look for at a shop"  
店のおじさんは若い "the shop owner is young"  
ほうきを見つける "find a broom"  
600円 "600 yen"  
ほうきを買う "buy a broom"  
ほうきを運ぶ "carry a broom"  
おじさんが質問する "the man asked"

Next, students were told to translate their pieces. When most students handed in their translations, they were corrected, assembled in the right order, and shown in class (in 2008), or they were corrected, typed on separate pieces of paper, and the students were asked to put them into the right order (in 2009). In the last piece, the author's daughter says to the shop owner, "I'm

going to practice flying in the sky." Then a question was rendered: How would the shop owner respond? After having students' suggestions, the ending and the author's conclusion, total 7 lines, were read in class.

In the two lines of conclusion, the author returned to "the imaginary world" and commented about the shop owner's response. The students were reminded of the theme of this essay and understood that it was not simply a description of an episode about her daughter. They could take the organization of the whole essay as a model.

As for assessment, the students were asked to write the summary of the essay in the final written examinations for bonus points.

## 5. Discussion

Generally speaking, students studied quite autonomously. They participated in activities that were not required for the course work like other activities that were counted into grades. The entire class worked effectively as a team. A few students did not do some assignments, but follow-up activities were easily managed without penalizing them. For example, some students did not give summaries of their pieces. The activity of rearrangement of the summaries were, however, completed by figuring out what part had a gap according to the rest of the story and what content was needed to fill the gap. That situation actually urged them to think about the flow of the story more carefully.

The success was evidenced by the responses in the questionnaire conducted at the end of the semester. Eight students out of 10 in 2008 and 11 out of 14 in 2009 responded to the questionnaire. The questions in it were:

- (1) Did you notice that due dates of "homework" were not set?
- (2) What was your motivation for doing that "homework," which did not have due dates?
- (3) Did you do the recording "homework"?
- (4) When recording, how many times did you record your portion before posting one onto Wimba?
- (5) Did you listen to your recording before posting it? Why or why not?
- (6) Did you listen to the model recording before posting it? Why or why not?
- (7) What did you find in your recording after listening to the model recording?
- (8) Any other comment?

Table 1 shows the numeric results from the responses. Table 2 shows a summary of responses to the questions asking for reasons. The responses are divided according to the answers of the previous questions, which were "Yes" and "No," and the responses from the two semesters were put together. "08" and "09" indicate students of which semester gave the response. Table 3 indicates their other comments (Question #8).

Table 1: Numeric Results from the Questionnaire

Question	2008 (n=8)		2009 (n=11)	
(1) No due dates	Noticed: 6	Not noticed: 2	Noticed: 5	Not noticed: 6
(3) Recording	Did: 8	Didn't do: 0	Did: 6	Didn't do: 3 Don't remember: 1
(4) Times of recording before posting	Once: 1 Twice: 2 Three times: 2		Once: 1 Twice: 2 Three times: 2	

	More than 3: 3		More than 3: 1	
(5) Listening before posting	Yes: 7	No: 1	Yes: 5	No: 1
(6) Listening to the model	Yes: 8	No: 0	Yes: 2	No: 3 Don't remember: 1

Table 2: Summary of Responses with Reasoning

Question	Under "Yes"	Under "No"
(2) Motivation	Like Kanji/translation (08) Interesting/challenging (08) Wanted to know the story (08/09) Avoid affecting others (08/09) Had to do (08/09)	Had to do/get a good grade (09) For more practice (09) Wanted to know the story (09)
(5) Reason for listening or not listening to one's own recording	To check if recorded (08/09) To check accuracy/fluency/flow (08/09)	Don't like to listen to own voice (08) Busy (09)
(6) Reason for listening or not listening to the model recording	Wanted to compare/know native speaker's reading (08) Wanted to check accuracy (08/09) Told to listen (08)	Busy (09)
(7) What was found when listening to the model recording	Difference in fluency/intonation/clarity (08) Wrong pronunciation/Kanji reading in own recording (08/09) Own reading was quite good (08)	N/A

Table 3: Other Comments (Question #8)

<p>Enjoyed.          Interesting, wanted more reading materials to do on our own          Can be a topic of conversation with native speakers          Good to know they had a purpose          It was incredibly frustrating to translate portions that contained unknown vocab &amp; grammar, especially out of context          Not helpful</p>
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According to the students' performance and their responses in the questionnaire, they did assignments much better than the instructor expected, although they noticed no due dates were set. A majority of them did so because of their interest in learning language or the story itself, rather than for the sake of the course work. Even a student who did not notice that no due date was set states that he/she did it because he/she wanted to know the story. It was most surprising that all students in 2008 did the recording, all but one listened to their own recording before

posting, and all listened to the model recording. The assignments worked perfectly in such a way that they did it completely voluntarily and took the chance to monitor their performance and compare theirs with native speakers'.

Another comment that deserves mention indicates cooperativeness by two students (one in each semester) as the reason why they read their pieces. They stated that they wanted to avoid negative influence on their classmates that would have resulted from not reading the given pieces. Considering that all students actively participated when discussing the order of pieces in class, the others also fulfilled their responsibilities, though they may not feel them consciously. As many researchers reported in previous studies, jigsaw reading in this project also asked for a sense of responsibility and facilitated collaboration. It was not a competition among groups, in which all members can contribute to winning, as Slavin (1984) suggested as a most effective setting to enhance collaboration. Nevertheless this project worked well, probably because the college students were more academically motivated and winning a "game" may not be necessary as an incentive for learning.

The students' reading achievement was observed in their final examination in 2009. They were asked to write a summary of the essay for bonus points. Of those who chose to write, all but one wrote in Japanese, though the language was not specified. Two students described the story capturing the theme of the entire essay, five students described only the episode about the author's daughter correctly, four put wrong information about various details in the episode and/or missed the general idea, and two did not write at all. Their achievement in reading and summarizing was consistent with the other parts of the examination.

Finally, there are noticeable differences in the responses from the questionnaire between the two semesters. The students in 2008 participated more enthusiastically compared to the ones in 2009. The reasons for the differences cannot be specified. One possibility may be related to the impact some students' comments gave to the others in class in 2009. They spoke up in class to say there were many Kanji and vocabulary they had not learned yet and that it was very hard to figure out the content of a small piece without knowing the context. One of them wrote exactly the same comment on the questionnaire. It was revealed that they were still in a passive learning mode asking for reading materials with learned information only or with reading guides. The project was conducted based on the assumption that telling students explicitly that a purpose is to learn autonomously forces them to study "autonomously" for a good grade instead of autonomous learning itself. Therefore, it is necessary to approach to this type of student, probably individually, so that they would understand learning to handle unknown Kanji and vocabulary by themselves is a primary aim of this reading. As the last point, the tones in their responses are also different; some of them in 2009 did not remember whether they did a recording or whether they listened to the model recording. These differences were probably because of the timing of the project during the semester, rather than lack of enthusiasm. It was conducted at almost the end of the semester in 2008, while it was conducted very early in the semester in 2009. In other words, students in 2008 responded before their excitement went away, while the ones in 2009 had already lost their excitement by the time they responded to the questionnaire.

## **6. Conclusion**

The project was planned and conducted to develop reading proficiency and autonomous learning, using an authentic material. Adoption of jigsaw reading was successful in achieving that aim. Students studied by themselves, discussed the content collaboratively, and took the opportunity

to monitor their performance and see models to aim for, while improving their reading skills. There were some students who were reluctant to get out of the passive learning mode. In order to maintain the motivation for collaboration, an individual approach may be helpful.

Notes:

1. IME pad is a feature in Word on Windows. When a user opens it and "writes" a Kanji in a designated space (pad) using a mouse, it gives options of Kanji that look like the one written on the pad. By pointing the arrow at a Kanji chosen among the options, readings are shown. Kanji Rakubiki Jiten has basically the same function.
2. Wimba is an asynchronous communication tool that can be used within a group of people only. One of the features in Wimba is a voiceboard. It works like email exchange using speaking, and it is possible to send (post) voice messages so that the instructor and all students can listen to all postings, or so that the entire class can receive the same message from the instructor but students can post (reply) to the instructor only. The feature used for this project was a voiceboard in the latter mode, which does not allow students to listen to other students' recordings.

### **Material used:**

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