
INCREASING READING FLUENCY IN YEAR 5 STUDENTS LEARNING JAPANESE AS A SECOND LANGUAGE

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ABSTRACT

This chapter outlines a pedagogical study conducted in a government primary school which aimed to increase reading fluency in Grade 5 students learning Japanese as a Second Language. The scaffolded activities and incorporation of Information and Communication Technology (ICT) throughout the program are outlined along with the various assessments – both formative and summative – that provided the structure for the study. This study proved to be highly successful in providing Grade 5 students with the tools required to improve their reading fluency in hiragana without the need for romaji support. As students' reading skills improved, their motivation for learning Japanese increased. While the study included a broad range of activities, student feedback suggested that the Interactive White Board (IWB) Word Magnets were the most favoured and effective learning activities.

INTRODUCTION

Studies have shown that even reading a first language (L1) is a complex process (Nassaji 2011), and when it comes to reading in a second language (L2) more complications arise, particularly relating to cross-linguistic and sociocultural influences (Bernhardt 2005). Reading ability is further hampered by the amount of exposure to the L2; low exposure can result in limited word recognition ability (Gorsuch & Taguchi 2008, 2010). In addition, L2 readers tend to focus more on the vocabulary and grammar than on comprehension (Horiba 1990).

It is difficult to define reading fluency conclusively, and researchers have taken a variety of approaches to the concept. While some suggest fluency is made evident through smooth reading with no hesitation (Yamashita & Ichikawa 2010), others suggest accuracy, automaticity and prosody are important components of reading fluency and claim that in fluent readers word recognition and comprehension occur simultaneously (Kuhn et al. 2010). Some researchers claim that word recognition is just the first step to comprehension (Samuels 2007). The definition of fluency for the purpose of this study combines elements of these approaches; reading fluency is here defined as *reading with accuracy and automaticity with evidence of comprehension*, with a focus on comprehension (indicated by matching written words and sentences to images) rather than reading aloud.

BACKGROUND

RATIONALE

Teachers of Japanese as a Second Language (L2) in Victorian primary schools face many challenges, including mixed abilities within a class, class sizes, school culture, community support and adequate resourcing. Time allocation is one of the most significant challenges. While languages attract similar weighting to other elective subjects in most secondary schools, the majority of primary schools allocate only one 40–50 minute class per week to second language study.

At Gardenvale Primary School, the Japanese program has strong community support and generous resourcing but faces the same time allocation issue as many primary schools. Students learn Japanese from Foundation level to Year 6, attending language class once a week for a 50 minute period. Despite being enthusiastic learners in a relatively positive environment for language learning, in the past students have not progressed easily from being capable readers of characters and words to becoming fluent readers of texts. While Vygotsky suggests that students need to be in a “zone of proximal development” (ZPD) for meaningful learning to occur (Wood & Wood 1996), this goal has been a challenge to incorporate into planning documents for 600 students across seven year levels in 24 separate classes. This is due in part to a lack of time to create individualised learning plans for such a large number of students, as well as limited class time available to differentiate learning experiences. As a result, learners have not always received the necessary support to move into the ZPD. The focus of this study was to develop a highly structured and scaffolded program through which students could achieve the specific goal of an increase in fluency when reading a short text, with an emphasis on progressing the students from individual word recognition to comprehending text as a whole.

THE STUDY

In order to improve learners' fluency, a fourteen-week plan was developed which consisted of scaffolded tasks designed specifically to move students into the ZPD with a variety of supports. The scaffolded tasks included both digital and non-digital activities and were designed for individual, small-group and whole-class configurations. The project began with a revision of hiragana to make certain all students were familiar with the characters and all of their conventions (diacritic marks, blended sounds). Assessments included a pre-test, a series of formative assessments and a post-test toward the end of the study (summative assessment). The study concluded with individual assessment tasks that demonstrated student mastery of the macroskills of reading and speaking.

The topic chosen for the reading material used in the study was "travel". It included vocabulary relating to vehicles and place names, and the sentence structure "I go to ~ by ~" (see Table 1). This topic was new to all students, so no individual student would be expected to have a linguistic advantage. All words were introduced in hiragana even though traditionally loan-words are written in katakana. Students are not introduced to katakana characters at this primary school and therefore it was felt that introducing them at this point would cause confusion and take the focus away from reading. Also, at this level of study more value is placed on the ability to read hiragana than adopting traditional spelling conventions.

Transport vocabulary	Places vocabulary
くるま	はし
たぐしー	えき
ばす	くうこう
でんしゃ	おてら
しんかんせん	とりい
じてんしゃ	じんじゃ
ひこうき	ほてる
ふね	りよかん
へりこぶたー	おんせん
あるいて	こうえん

Table 1: Vocabulary introduced in this study

Year 5 students (85 students in total) were chosen as the target group for this study for the following reasons:

- students had already learned all hiragana characters and therefore could focus solely on developing reading skills;
- students were enthusiastic and self-motivated and therefore were more likely to adopt a positive attitude to the challenge of reading;
- students were already familiar with Japanese word order, therefore sentence structure and other grammatical elements would be more easily identified and understood.

PROGRAM

SCAFFOLDED TASKS

The tasks were scaffolded to ensure students were both building on previous knowledge and being challenged academically and therefore being moved into the ZPD. The initial activities focused on hiragana revision, and moved on to word recognition and sentence construction activities which incorporated the RR methodology¹ (see Table 2). This scaffolded approach would enable students to increase accuracy and comprehension of the vocabulary, resulting in increased reading fluency.

Initial phase of study	Revision of hiragana and all conventions Oral introduction of vehicle vocabulary through "transport rap" song Oral introduction of place names using flash cards and mnemonic stories Oral introduction of sentence pattern and vocabulary to be covered
Pre-Test and post-test	Pre-test of 1) basic hiragana character recognition; 2) hiragana character reading knowledge (including blended sounds and voiced/unvoiced consonants); 3) whole word recognition (matching words to images); 4) sentence recognition (comprehension by matching sentences to images). NB. In each section there was a timed element, so that improvements in reading times could be measured from pre- to post-test. Post-test (identical to pre-test) (see Appendix)
Learning activities	Introduction of new vocabulary using Triptico Word Magnets ² Word order activities using Triptico Word Magnets Vocabulary Introduction/Revision using Flash cards Grammar Hunt – collaborative task and Interactive Whiteboard (IWB) PowerPoint interactive Particle races – matching particles to correct nouns using word cards Sentence word order activities using IWB and word cards Karuta games using picture and word cards Creation of Travel Mini book
Assessment tasks	Formative assessments: swatter game using flashcards swiping game using Triptico and IWB karuta card game using pictures and words Revision activities at beginning of each lesson Summative assessments: Creation of annotated Map including labels for places and transports <i>Tellagami</i> recording (using <i>Tellagami</i> App on iPad) based on reading map Student feedback – discussion

Table 2: Outline of scaffolded tasks

PRE-TEST AND POST-TEST

The pre-test and post-test were identical in order to clearly identify change in students' recognition and reading skills. The pre-test occurred in term 2, and the post-test was conducted in term 3, ten weeks after the beginning of the Project.

The pre-test (reproduced in the Appendix) occurred in week three of the Project. This time was chosen for two reasons:

- 1) by week three, students had thoroughly revised hiragana and were once again confident in recognising the characters and conventions; and
- 2) students had participated in three weeks of oral activities and had demonstrated through formative assessment activities (transport song and flashcard-swatter games) their familiarity with the vocabulary and sentence structure.

1 'RR methodology' refers to the Repeated Reading Method, in which students read and re-read texts in order to improve their speed, accuracy and comprehension of the text.

2 'Triptico Word Magnets' refers to a Web Tool (<https://tripticoplus.com/>). This tool allows teachers to create and edit interactive screens containing words and images for use on IWB.

Students were instructed that these pre-test results would not be used for any reason other than as a starting point for the study, so as to minimise the incidence of stress or nerves in completing the test. They were asked to complete each section and then record the time taken to complete the task, after which they were asked to put down their pencil and turn the page over. The same structure applied to all other sections of the pre-test. At the end of the pre-test, all papers were collected and scores were recorded on an Excel chart.

STRUCTURE OF LESSONS

Each class followed a similar structure:

- Revision activity using flash cards/Triptico Word Magnets – discussion/ sharing reading strategies
- Introduction of new materials (vocabulary, grammar, sentence structure)
- explicit teaching of new material
- small group activity to reinforce new learning – peer learning
- reading-revision using Triptico Word Magnets/word cards – formative assessment
- individual activity – writing sentences/creating annotated map/ recording *Tellagami*
- lesson end – discussion – revision of new learning and connecting it to prior learning



At the beginning of each lesson, during the revision activity using the IWB and the Word Magnets, the students were asked to share their strategies for how they read the word. Students were encouraged to apply a variety of reading strategies to the reading tasks and were reassured that all strategies were valuable. The strategies used by them included:

"I listen to the sound of the first part of the word and look for that character";

"I listen for a character that I know and try to find it on the board";

"I listen to the number of syllables in the word and then work out which word has the same number of characters";

"I knew that it started and finished with で (でんしゃで) so just looked for the word with a matching character at the beginning and end";

"It looks like two people in a hot spring";

"I knew that one sound was repeated so I tried to find the word which had repeated characters";

"I remembered from last week";

"I don't know, I just know";

"I guessed".

FORMATIVE ASSESSMENT

Throughout this study, there were several data collection points where formative assessment took place.

- Revision activities – these were structured in such a way that it was possible to ascertain student familiarity with character knowledge/vocabulary/sentence structure.
- Sentence structure activity using word cards – this activity involved students working in groups of 4 or 5 to create sentences using cards which contained nouns, particles and the verb *いきます*. This allowed the teacher to circulate amongst the groups and provide additional support where needed.
- Vocabulary-swatter / *karuta* activity – assessed students' ability to recognise several pictures and/or words when given an aural clue.

One or more of these activities were included in each week's lesson plan, allowing ongoing formative assessment of student ability, and this in turn was used to inform planning for the following week's lesson.

The value of ongoing formative assessment was particularly evident in week four, when the "Create a sentence using the cards on your table" activity revealed that a significant number of the students were struggling with the correct word order. Many of the groups were placing the verb before the place-noun and particle, replicating the English word order of "I go to [place]". As a result, the following week's lesson was adjusted to include a focus on word order and the structure of sentences using the Triptico Magnets on the IWB. Formative assessment in the week after showed that students had become more familiar with the Japanese word order as all groups were using the correct sentence word order.



Other examples of formative assessment informing teaching methods occurred during the initial revision activity in each lesson. Where a number of the students were displaying difficulty in recognising and/or reading the words, the lesson would be adjusted to include a short word recognition and reinforcement activity such as karuta or swatter which provided an opportunity for all students to practise their word recognition.

SUMMATIVE ASSESSMENT

In week ten, students began the final assessment activity for this unit of work. The assessment activity involved three parts:

- 1) students were required to create an illustrated map and include and label all of the vehicles and places on the map;
- 2) using the map created, students were required to write five sentences that would follow a path around their map using the appropriate sentence structure,
(transport) で (place name) に いきます。;
- 3) students were asked to create a *Tellagami* avatar, photograph their map as the background image, and then read and record three of their sentences using the app. As the app does not allow editing, reading had to be recorded in one continuous stream.



RESULTS

INCREASES IN READING SCORES

While there were improvements across all areas of reading (individual characters, words and sentences), the most significant was in the reading of whole words and sentences. In reading whole words, only 2% of all students received 100% in the pre-test, whereas in the post-test this number increased to 27%, with 56% of students receiving a score of 70% or above. In reading sentences, the number of students who received a score of less than 20% decreased from 61% to 8% from pre- to post-test, and at the other end of the scale the percentage of students who received a score of 100% increased from 8% to 58% – with 74% of all students receiving a score of 60% or more. This showed a significant increase in the accuracy with which students could read the words, and their matching of words to images reflected an increase in comprehension of the whole words and sentences.

Throughout the study, when working with the IWB and the Triptico Word Magnets the students were invited to share their reading strategies for whole words with the class. The strategies drew on students' existing knowledge and experience (e.g. "in *しんかんせん* the *ん* looks like the wheels of the train") and the sharing of these strategies afforded students new ways of reading Japanese words. This explicit focus on reading strategies using the IWB and Word Magnets was seen by the students as one of the most effective tools for learning and remembering new vocabulary.

DECREASE IN TIME TAKEN

The second set of data that was collected was the time it took students to complete tasks. All students were required to record the time taken to complete each section of the pre- and post-test. While it was expected that all times would decrease, the results did not consistently reflect this expectation. In the individual character reading, speeds did decrease for 72% of the students; however, in the sentence reading section, over 50% of students showed an increase in time taken to read. The reason for the increase in time became apparent when students relayed that they had guessed the correct sentence in the pre-test, but in the post-test they actually read all of the sentences before selecting the correct one.

STUDENT OPINIONS

In the final session of this project, students were asked to discuss their experiences relating to this unit of work. They were also asked to rank the activities in order of most to least helpful. The students ranked the activities as follows:

1. Triptico Magnets
2. sharing strategies – talking about how to read words
3. music/songs/raps
4. the mini books
5. playing karuta/particle races
6. using hiragana charts to read characters

CONCLUSION

One of the most notable aspects of this study was the observation that the students' motivation to learn language increased as their reading fluency improved.

The results of this study strongly supported the use of a structured series of scaffolded learning activities to reinforce the development of students' reading Japanese as an L2 with increased accuracy and comprehension. The inclusion of frequent formative assessment to ensure all students were within the ZPD proved to be valuable and the student-sharing of strategies proved to be one of the most effective learning activities in the development of reading skills. The IWB was instrumental throughout the study, both in providing a visual and tactile language learning tool and in establishing a whole-class focus for reading skill development.

The revelation that students were more confident in reading words and sentences than in reading individual hiragana characters provides an interesting challenge for teachers. While Japanese language teachers have a duty to ensure students thoroughly learn to read and write hiragana characters, the results of this study would suggest there is a strong need for balance between individual character recognition, whole word and sentence recognition, and comprehension – for both academic and motivational purposes.

This study revealed an improvement in reading fluency – both in accuracy and comprehension – in the majority of students involved and therefore achieved the goal of the pedagogical innovation that was the subject of this research. There is a need for further research into applying a similar structured and scaffolded approach in the development of other macroskills in primary students studying Japanese as a Second Language, with particular focus on methods of improving language skill development within the limited resources available to primary language teachers.

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Year 5 Travel Mini- Quiz

Name: 5

This mini-quiz is NOT an assessment – just a tool to measure how much we learn over the next ten weeks or so. Please do not be worried if you are not sure how to answer any of the questions. Just try your best and enjoy. When you finish each activity, write your time in the box below.

① Please read the following characters and tick the correct reading:

My time:

あ	a	o	ka	wo
き	sa	ta	ho	ki
く	he	ku	shi	i
し	tu	te	shi	n
す	mu	ru	na	su
て	ku	te	to	he
に	ko	ta	ni	i
ま	ho	ma	ki	ta
る	ra	ri	ru	ro
ん	ku	n	mi	na

② Please read the following characters and write their pronunciation:

My time:

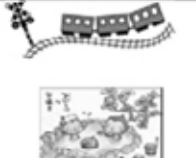




い	
こ	
す	
た	
な	
で	
じ	
や	
じゃ	
りよ	

③ Please read the following words and circle the matching image:

えき	
ひこうき	
はし	
こうえん	
おんせん	
くるま	
じんじゃ	
でんしゃ	
くうこう	
しんかんせん	

My time:

Choose the sentence which matches the picture clues.

	1. ひこうきでおてらにいきます。 2. でんしゃでおんせんにいきます。 3. くるまでおんせんにいきます。 4. ひこうきでじんじゃにいきます。
	1. ひこうきでおてらにいきます。 2. でんしゃでえきにいきます。 3. しんかんせんでおんせんにいきます。 4. ばすでじんじゃにいきます。
	1. ひこうきでおてらにいきます。 2. じてんしゃでほてるにいきます。 3. しんかんせんでえきにいきます。 4. ばすでじんじゃにいきます。
	1. ひこうきでじんじゃにいきます。 2. じてんしゃでおんせんにいきます。 3. くるまでこうえんにいきます。 4. ばすでおてらにいきます。
	1. ひこうきでおてらにいきます。 2. くるまでおんせんにいきます。 3. しんかんせんでえきにいきます。 4. ばすでくうこうにいきます。

My time:

Please complete the following opinion survey by circling the response that is most correct for you:

	all the time	most of the time	sometimes	hardly ever	never
I find reading the hiragana easy	5	4	3	2	1
I find reading the words easy	5	4	3	2	1
I find reading the words easier than reading the characters individually	5	4	3	2	1
I find reading the characters individually easier than reading the words	5	4	3	2	1
When reading, I look for characters I know	5	4	3	2	1
When reading words, I try to read each character in the word	5	4	3	2	1
When reading a sentence, I look for words I know and guess the meaning from there	5	4	3	2	1
When I see a whole lot of characters, I just give up	5	4	3	2	1
There are more words and letters that I can read than those I can't read	5	4	3	2	1
I feel good when I can read the words	5	4	3	2	1