Web-assisted extensive reading with scaffolding framework

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This paper describes the MSUERT (Multiple Step Units for English Reading Training) program developed to provide support to study-abroad students participating in a voluntary Extensive Reading program. This paper first introduces the development of the Reading Marathon program, and limitations of this program. It then discusses a trial run of the MSUERT program.

本稿では、交換留学を希望する学生に自発的な多読プログラムを通して学習支援を行うMUSUERT（多段ユニット式英語トレーニング法）について紹介する。本稿はまずこのプログラムに先だって運用しているリーディング・マラソンの背景と限界について論じた後、現在試行段階にあるMSUERTプログラムの詳細を論じる。

MULTIPLE STEP Units for English Reading Training (MSUERT) provides individualized assistance to students working to improve their reading skills. As a study-abroad advisor, it is part of my responsibility to assist individuals planning to become exchange students, who need to obtain a compulsory score in TOEFL. Because of their low reading skills, the TOEFL can pose a challenge. Many students have never encountered reading lengthy passages without translation. These students are highly motivated, but it is hard for them to find appropriate reading materials. Their tendency is to grab workbooks from high school to review grammar and vocabulary, which they were taught as the correct way to study English. University students turn to TOEFL workbooks for self-study, but the workbook passages overwhelm them as they try to translate the meaning of individual sentences. As Day and Bamford (1998) state, students need to learn to "speed read," to focus on meaning rather than language details. To assist large groups of students, we have developed an extensive reading program, MUSERT (Multiple Step Units for English Reading Training), using exercises and activities readily available on the Web and iPod platforms. This paper reports the development of MSUERT as a supplement to an existing program, the Reading Marathon.

Reading Marathon Program

The Reading Marathon Program is a non-credit program where interested students register voluntarily. Graded readers purchased from a university fund are color coded according to the level of the difficulty. The books are selected from various publishers and classified according to the headwords level shown in Table 1. Students can check out books twice a week.

Table 1. Reading Marathon Color Coding System

Color coding	Headwords
Orange 1	600 headwords ~
Orange 2	1000 headwords ~
Green 1	1200 headwords ~
Green 2	1500 headwords ~
Green 3	2000 headwords ~
Blue	3000 headwords

When the students register for the Marathon, they are given several guidelines. They are encouraged to read without translation and try to understand the story line without worrying about details. Students sometimes ask how many pages they should read, and are surprised when told to read the whole book. Once registered, each student selects up to three books of their choice from the Orange 1 basket. They record the number of pages in the main story on a registration sheet. When the total pages of the current level exceeds 400, they move to the next level. The students are allowed to keep the books up to two weeks. If they need to extend this period, they can do so one time. Books returned unread are deleted from the record of page count. This program does not give any kind of comprehension test of the book each student read, unlike the similar extensive reading program operated as a part of a credited course.

Problems with the voluntary reading program

The Reading Marathon has been quite successful, as indicated by the increasing number of registrants. As of November, 2010, four and a half years after the Reading Marathon Program started, over 300 students have registered for the program. I have added more books primarily at the lower level. When the students come to the room to check out new books or return books they have borrowed, I ask for comments about the program and their reading materials.

Students seem to exchange opinions about which titles are interesting. Some say it is easier when they read with a friend or another student. This comment makes sense as Japanese students tend to stay with the same group of students most of the day, developing "team spirit" by working together on the project. When the extensive reading program is operated as a part of a credited course, the teacher must ensure that each student has actually read an assigned book and computerized comprehension tests have been created as a tool to prevent cheating (Robb, 2002; Stewart, 2008). However, this program has neither credits nor grades, so there were no such worries.

Students who have moved to Green 1 level comment that they start to enjoy the plot of the story at this level. The vocabulary and sentence structures are limited at Orange 1 and 2 levels; the stories tend to be simple, dry and, consequently, uninteresting. Those who reach this level tend to move on to the higher levels of the Reading Marathon. At the same time, this is the level where they start to notice that they are learning to read English extensively.

In contrast, students with especially low reading skills often dropped out of the Reading Marathon. Reading "so much"

unassisted proved too great a burden. Hu and Nation (2000) note that, even with reasonably easy text, learners need to cover most of a text to comprehend the meaning. I concluded that additional scaffolding was needed for such students, which led to the work described in the next section.

Scaffolding the reading task for Japanese university students

The importance of extensive reading has been emphasized in several recent reports (Lavin, 2005; Furukawa, 2008; Stewart, 2008; Nishizawa, Yoshioka & Fukada, 2010), but English education in Japanese high school still centers around grammar and translation. The English reading performance of Japanese university students has changed little since the report by Kitao and Kitao (1986) more than two decades ago. Students learn to use a dictionary for ambiguous vocabulary and to identify the antecedent of a relative pronoun to understand a sentence. Translating a passage is considered proof of understanding. Students learn by rote. The "long passages" in the entrance examination are only a few paragraphs, which is poor preparation for the reading skills required in the real world.

Students who enter the university with these educational experiences seem likely to benefit from "scaffolding" that helps them to restructure their reading strategies. Lajoie (2005) defines the scaffold metaphor as "a temporary framework to support learners when assistance is needed and is removed when no longer needed" (p.542). Applied to reading instruction, students may need help with basic vocabulary, so that they can follow the story line, even an ambiguous one, with help that can be provided just before reading a passage. In addition to vocabulary assistance, grammar review may be helpful, especially sentences mixed with compound and complex sentences, but emphasis should still be placed on meaning rather than grammatical analysis.

In Japanese high school English education, speed reading is a foreign concept; students read English sentences carefully moving their eyes back and forth. They are encouraged to read fast so that they can complete all the problems in the examination, but this technique is totally different from speed reading as used in ESL. Carver (1992) defines reading efficiency as "a combination of accuracy and rate" (p. 347). Reading slowly does not necessarily ensure better comprehension, although many weaker students tend to believe so. Kitao and Kitao (1986) argue that "if a reader reads too slowly, it is more difficult to relate the ideas in a passage, and it is more difficult to understand the passage" (p.16).

Multiple Step Units for English Reading Training (MSUERT)

In order to provide Japanese students with more individualized scaffolding while they read, an e-learning system is being developed to provide support. The goal is to design a system with plenty of support and user-friendly features, so that Japanese students lacking the basics of English can be motivated to improve.

This project is a collaboration with Joji Miwa, an associate professor in the Faculty of Engineering, Iwate University. Miwa has been involved in the design of an online education platform of Japanese language study for many years. By adding new functions, we expected that MSUERT could be mounted on a platform called *iCampus: Integrated e-Learning*.

MSUERT provides three types of activities: Pre-reading Activities, Post-reading Assessment and Intensive Training. Each activity consists of several types of questions shown in Table 2 below.

Table 2. Types and categories of activities and number of questions

Type of Activities	Level	Focus of Questions	No. of questions per book
Pre-reading Activities	Orange 1	vocabulary	20
		grammar	5
	Orange 2	vocabulary	20
		grammar	8
Post-reading Assessment (2 sets)	Orange 1	vocabulary	10 x 2
		grammar	10 x 2
		context	10 x 2
		speed (40 – 60 words)	2 x 2
	Orange 2	vocabulary	10 x 2
		grammar	10 x 2
		context	10 x 2
		speed (60 – 80 words)	2 x 2
Intensive Training	Orange 1	vocabulary	6
		grammar	5
		context	20
	Orange 2	vocabulary	10
		grammar	8
		context	20

MSUERT aims to engage students in activities that accelerate the process of reading skill development. This feature is realistically important because they have only two or two and a half years to prepare for the study-abroad program even if they have started upon entering university. This consideration is crucial because this program's primary target is the prospective study-abroad applicants. To allow continuous practice, program materials are on a server that can be accessed by either a computer or a mobile device, allowing students to receive personalized support even if they are not enrolled in an extensive reading course.

MSUERT is organized as shown in Figure 1, in which the colored boxes denote student access to the server.
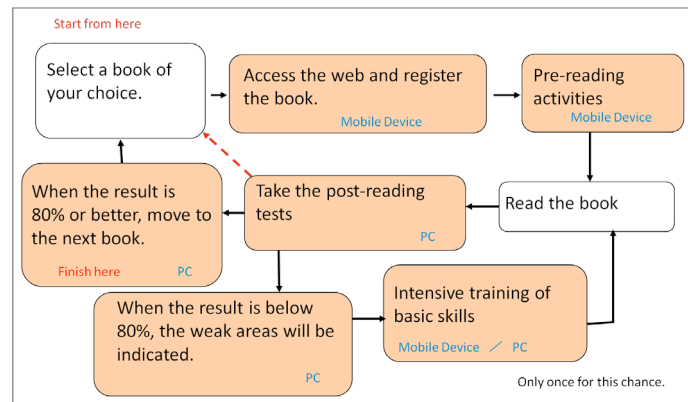

Figure 1. MSUERT components and process

This system will be applicable to mobile devices such as iPod touch and iPad as well as a computer, allowing students to study any time and any where. Figure 2 displays the image on the iPod Touch.

The pre-reading activities, intensive training sections and speed reading sections have been produced by Japanese English teachers with TESOL background. Post-reading assessment questions, except for the speed-reading section, have been produced by ESL native-speaker teachers. Questions have been allocated in this fashion because experienced Japanese English teachers, based on their knowledge of Japanese-English education, can predict the structures and or vocabulary entries that

might hinder Japanese learners. Nishizawa et al. (2010) report that even the "low-level" graded readers for ESL learners are not necessarily easy enough for some Japanese EFL learners.

Figure 2. MSUERT on iPod Touch

After a student has physically checked out a book from the Orange 1 basket, the student registers the book title on the book management website. The title is then recorded on the student's personal profile. The teacher gives a key code to the student for the book s/he registers. This code is changed for each book

entry to prevent students from doing the activities without reading the book. The teacher can login to the administrator's page to view who has checked out which books. When the books are returned after reading, each student is asked to rate how s/he liked the book on five-point scale, which provides information for the other students. Then, the student accesses the iCampus page to enter the core part of the MSUERT, the assessment system. Figure 2 displays the iCampus page. On this page, the activities the student has to do are listed in the order they take. The starting and ending times are also indicated. When the activity is done by the student, it is also shown next to each activity.

Figure 3. iCampus Login for assessment activities

In pre-reading activities, the students review or learn the meaning of key vocabulary and essential basic grammar for reading the book s/he has chosen. In some questions, questions

and multiple choices are given in Japanese where appropriate. If they make mistakes, they can learn from them at this stage by looking at their performance report shown after they finished this section as in Figure 4. The questions, correct answer for each question, the student's answer and whether it was correct or not are indicated. At the bottom, the percentage of the correct answer is shown.

Figure 4. Performance report

After reading the book, the student accesses the server and takes the post-reading assessment test, where student reading performance is assessed in the area of vocabulary, grammar, context and speed. In order to move on to the next book, the student must score over 80% correct excluding the score of speed reading section. The questions in this section assess the student's general understanding of the story as well as the knowledge of vocabulary and grammar. As Sakai (2002) states, a reading comprehension test could interfere students' reading activity itself. The context questions are carefully made not to test their memorization of the small details of the story. As for the speed-reading assessment, two reading passages are taken from the book used for a timed test. For subsequent reading levels the length of the passages are longer. In the future, the reading speed (words / minute) will be shown to the student with the reading efficiency rate (WPM / rate of correct answer). Question order as well as the multiple-choice answers are shuffled so that the students cannot pass on the answers to other students. When the student achieves over 80% correct, s/he is entitled to move on to the next book. The number of the pages is added to the student's profile.

SAMPLE QUESTIONS (The Amazon Rain Forest)

Pre-reading (vocabulary)

Which is "ten million"?

a. 10,000

b. 10,000,000

c. 10,000,000,000

Post-reading (context)

In about the year 1500, "white men" brought new (   ) and a lot of Indians died because of them.

a. medicines

b. chemicals

c. guns

d. diseases

Figure 5. Reading comprehension questions

If the student does not achieve 80% correct, then s/he is moved to Intensive Training. This section consists of three areas: vocabulary, grammar and context. The vocabulary and grammar questions are similar to the pre-reading activities. They reinforce the student's understanding of the basic vocabulary and grammar. The context section includes mostly True/False questions that cover the basic facts of the story to assess whether the student has understood them. After the Intensive Training, the student rereads the book and retakes the post-reading assessment. Gorsuch and Taguchi (2009) report that repeated reading (RR) improves readers' lower level word recognition, which can invoke higher-order comprehension processes. If the score is 80% correct or higher, the student moves to the next book, otherwise the student has to choose another.

When the student can successfully read 400 pages, he or she is notified to proceed to the next level. If a student finds a book uninteresting, the registration can be cancelled without penalty. Lavin (2005) points out students' reluctance to choose longer books can be avoided by providing appropriate support. By guiding students to longer readers with proper support and allowing them to "give up" the selected book if it turns out not appropriate, this problem can be solved.

The record of each student's reading performance as well as the title of the books is shown on the personal profile page, where students can learn about their individual reading performance.

Current challenges

MSUERT is presently in production. Three students have piloted the technical aspects of the program. To better achieve the program purpose, the following features need to be added:

Link the book management website with iCampus

MSUERT currently consists of two separate websites: iCampus and the registration website . Students have to log into each site separately, which has caused many problems. A program that seamlessly links these two websites needs to be created.

Create time interval between activities

Even though the students who tried MSUERT were advised to carefully read the guidelines, they often proceeded to the next activity without taking the intended steps. For instance some did the second post-reading activities right after they finished the Intensive Training without rereading the book. Students are encouraged to follow the order of the MUSERT activities in the order that they are programmed. But because time intervals are not set between pre-reading activities and post-reading assessment, not between Intensive Training and the second post-reading assessment, students can easily skip the scaffolding that is provided.

Provide a visible aid of individual student's current performance

Students participating in MSUERT need feedback and encouragement to continue the program. A visible aid showing how much work needs to be done to reach the goal and which skills need improvement, along with an encouraging message on their profile page, may help them keep working on the activities.

Conclusion

MSUERT is designed to provide special support to Japanese university students planning a study-abroad experience who need to restructure their reading strategies. Not all students are lucky enough to enroll at a well-designed extensive reading course, so

this program provides an option for them. The current program has been tested to examine the functionality of the program. It will next be tested on experimental and control groups who both register for the Reading Marathon, to determine the impact on motivation and reading performance. Also the number and types of questions need to be assessed based on the information obtained from the log history of the participating students. The results will be shared publicly when they become available.

Acknowledgement

Bio data

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