# Development of an e-Learning Program for Extensive Reading

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**Abstract**. As extensive reading becomes more commonplace in the EFL/ESL classroom, there is a rise in the number of instructors and administrators who are looking for cost-effective and space-saving methods to carry out extensive reading activities. Two extensive reading systems to respond to such concerns were developed with the support of a Grant-in-Aid for Scientific Research by the Japan Society for the Promotion of Science. PREMA (your Personal REading MAnager) and PREMA Beta, both allow online or offline texts to be used as extensive reading material, alleviating the need for libraries of graded readers. PREMA Beta is a web based program that allows for extensive and speed reading in English, and provides a management tool that both teachers and students can use to easily keep track of progress. The program runs in popular browsers such as Microsoft Internet Explorer, Mozilla Firefox and Google Chrome. PREMA is a browser-type software which works on a stand-alone PC. This software allows students to utilize texts (of any size) that they find online or offline, automatically tracks the total number of words read and students' reading speed, and rates the relative difficulty of a particular text based on vocabulary lists. In both systems, information from the Internet is used as a source for reading, as opposed to physical books, therefore, students have a vast endless supply of up-to-date reading material. Intrinsic motivation to read becomes higher, since there is no limit on the choice of topics, and students can progress freely at their own pace. For instructors, classroom management is made easy as this software can be used in or out of class, and individual student progress can be tracked instantaneously. From an administrative standpoint, the lack of need to continuously buy graded readers or find space to house them is an enticing prospect. In this paper, the philosophy of development will be explained, features of PREMA will be overviewed, and the future target for this program will be shared.

**Keywords**: extensive reading, speed-reading, web-based, original browser.

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## 1. Introduction

One of the biggest weaknesses of Japanese learners of English is their inability to correctly comprehend the simple daily conversations of native English speakers. Japanese learners rely heavily on a top-down approach to understanding the conversation, trying to piece together meaning from the few words they are able to discern and the overall direction of the content, and often give inappropriate responses because of miscomprehension. To minimize reliance on guessing, it is necessary to increase learners' ability to understand content bottom-up by building up their knowledge of English.

Our previous research project developed an effective e-learning system that personalizes tasks so that learners can intensively work on their weakest areas by increasing their percentage of using bottom-up approaches to understanding. This program clearly helped learners overcome problems of not being able to hear unstressed syllables and liaison sounds, and increased their ability to analyze phonemes (Okazaki & Nitta, 2005). The next challenge was to help learners process conversations at natural speed. This research project aims to develop a program to help increase learners' ability to process meaning by providing continuous and effective extensive and speed reading practice.

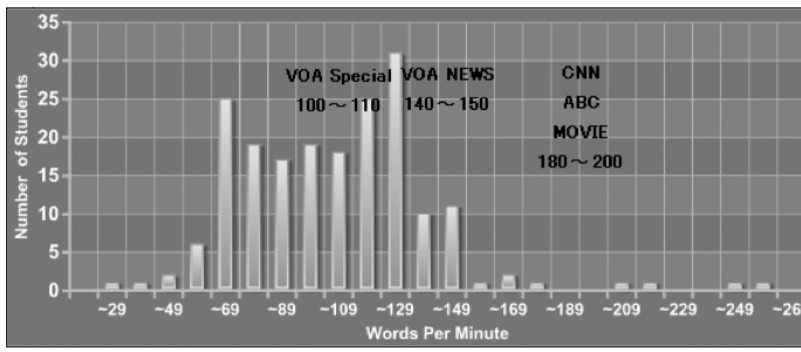
## 2. Development of the PREMAs

### 2.1. Background of the project

In an experiment examining the English reading speed of 193 Japanese undergraduate students in science and art programs at three different universities, the result showed that the average reading rate was 102.69 WPM (words per minute), and most respondents read 60 to 120 WPM (Figure 1). In comparison, the speech rate of the VOA Special English, a news broadcast for non-native English speakers, is approximately 100 WPM. Also, the speech rate of the VOA News, a news broadcast for native English speakers, is approximately 140 to 150 WPM, and that of CNN News, ABC News, and movies is approximately 180 to 200 WPM. Generally, reading at a faster rate than usual makes it difficult for the reader to comprehend the text. Likewise, the gap between speech rate and reading speed might indicate that listening to speech spoken at a faster rate than a listener's normal reading speed might hinder comprehension. In other words, average Japanese undergraduate students whose reading speed is 102.69 WPM may be able to process the stories in VOA Special English (100 WPM), but may have difficulty understanding VOA, CNN, ABC News, and movies (180-200 WPM). Consequently, the following hypothesis can be formulated: improving the speed to comprehend written text through reading is an effective approach to increase a language learner's ability to comprehend English speech at natural speed. Therefore, in the current research, systems for reading were developed to increase the learner's ability to process conversations.

This program enables instructors to provide sustainable and effective extensive reading and speed reading activities.

Figure 1. Reading speed of 193 Japanese college students




### 2.2. Development of PREMAβ (beta)

The list below shows the most basic things that might be required to carry out extensive reading in or out of class:

- A large number of graded readers;
- Stop watch;
- Score sheet, log sheet;
- Calculator.

However, it is very difficult to prepare all of these items in a regular English class, since a large investment of time, effort and money is required. For example, in a class of 30 students, a minimum of 30 books is needed. Obtaining enough books for a whole semester, not to mention additional sets for multiple classes, requires much money. In addition, physical storage space in the classroom or a carting system is also necessary.

In order to resolve the problems discussed above, our first stage of development involved making PREMAβ, a web-based program that allows for extensive and speed reading in English, and provides a management tool that both teachers and students can use to easily keep track of progress.

First, students choose an article from among the limitless amount of English texts available on the web, and copy it into PREMAβ. Then the students give this pasted article a title, and hit the save button. This action changes the screen to the Training Page screen. The Training Page displays the word count, and the date and title of the article are logged. After the student finishes reading, they hit the Finish reading button, and the time taken to read the article is recorded and the Result Indicator appears.

The Result Indicator shows title, word count, reading time, and reading speed (words per minute). This information can be viewed by both students and teachers on a daily or monthly basis. Teachers can also use the Scoring Manager to see students' progress at a glance.

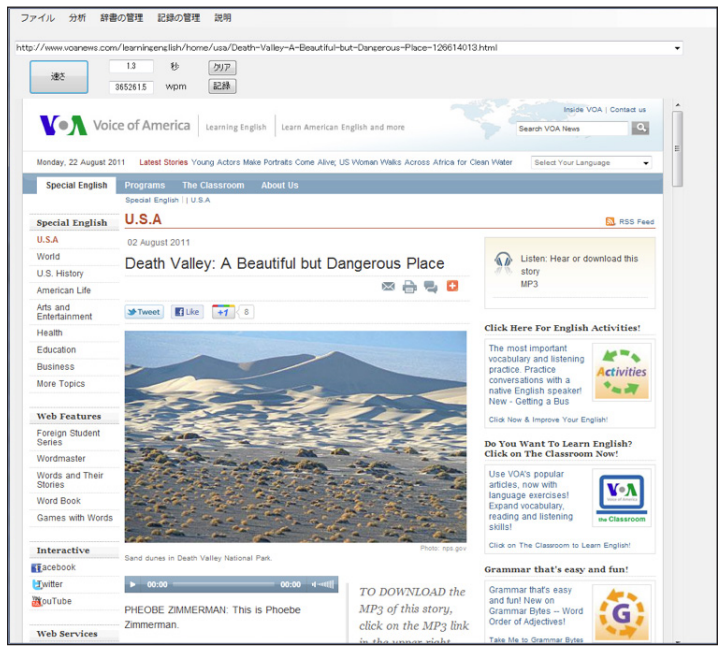
### 2.3. Development of PREMA

PREMAβ was developed to allow for automatic logging and retrieval of data concerning students' reading practice. However, one serious issue, the issue of determining the appropriateness of the level of the learners and the process of manually copying and pasting text, was yet to be resolved. The newly developed part of PREMA is a browser which has the following features:

- Highlighting target text, and with a click, be able to obtain word count, reading time, and reading speed;
- Estimate and display the level of difficulty of the target text, so that learners can judge for themselves what is very difficult, a little difficult, appropriate level, a little easy, or very easy (Okazaki, 2008);
- Provide a list of reading materials of appropriate vocabulary level for each learner based on Krashen's (1982) i+1 theory;
- Automatically log students' practice time.

Figure 2 below shows a screenshot of the PREMA Reading Browser. It looks and works just like a usual web browser, and students can search for an article they want to read by inputting keywords or the URL into the address bar, so manipulation of the program is very intuitive. In addition, there are some added functions to help analyze the readability and the vocabulary levels of the stories shown on the web pages, and is also equipped with a Time Keeper for measuring reading speed.

Figure 2. PREMA Reading Browser

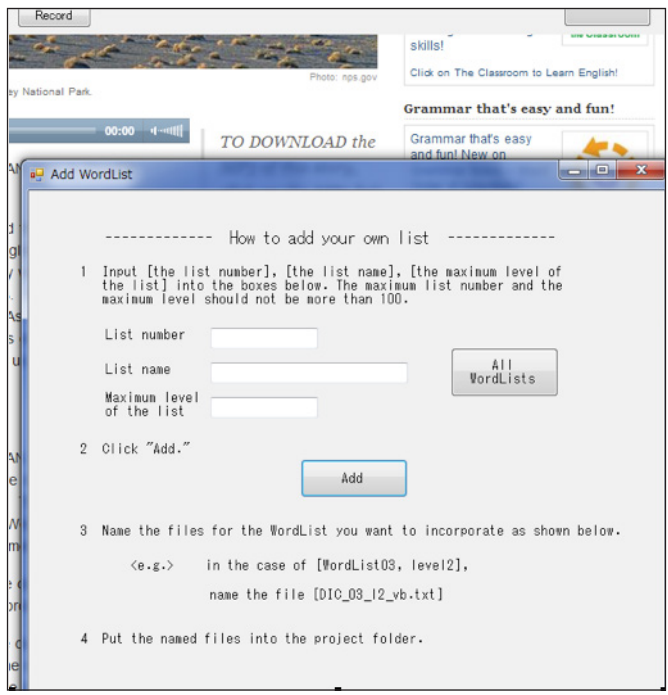


First, the user highlights the passage they want to read, and hits “Ctrl + c” to copy the passage. Next, instead of having to paste the text somewhere, the user just clicks the “Analysis2” button on the browser. A new window pops up which displays the number of characters, number of words, number of sentences in the passage, the Flesch Reading Ease and Flesh-Kincaid Grade Level score of readability, and the vocabulary difficulty index which is based on a word list.

Students can start reading practice with stories appropriate to their own English ability, with reading time and reading speed recorded automatically with the click of a button as shown below.

In addition to the attractive features stated above, we have developed an option to customize the word list system in order to allow for customization for English for Specific Purposes (ESP) uses. This Switchable Word List System enables users to change the word list from the default list to their own ESP one, for example, medical or engineering. On top of that, users can do this with basic computer skills – copying and pasting by clicking. Especially in the case of this kind of new software, it is important for the interface to be intuitive for any user (Figure 3).

Figure 3. Interface of Switchable Word List System




Now, students can start reading practice with stories appropriate to their own English ability, with reading time and reading speed recorded automatically with the click of

a button as shown above. The records related to their practice, reading time, reading speed, date and the title of the article (if they type it) will be recorded as a CSV file.

## 3. Next target and conclusions

In the present study, the researchers have developed two computer systems. PREMAβ has already been employed in language classrooms in multiple universities, and its utility has been refined. Also, a project called "100,000-word extensive reading and speed reading challenge" was held for students who were interested during summer vacation. In this project, the researchers observed whether or not it is possible to speed up learners' semantic processing through reading. Eighteen volunteers participated in this project, but only five students were able to read the target word count. Although the data cannot be analyzed statistically because the number of words read and the reading materials varied, the reading speed of the participants who put effort into the task apparently ameliorated. The possibility for boosting reading speed through the use of the current program was observed, but the data does not indicate that the preliminary hypothesis, "improving the speed to comprehend a written text through reading is an effective approach to increase a language learner's ability to comprehend English speech at natural speed," is valid, according to the results of a listening test taken by the respondents. For future research, the number of the participants should be increased, and further attempts should be made to enhance their reading speed by providing sustainable and effective extensive reading and speed reading approaches.

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