

A Web-based Japanese Language Learning Project

Shinichi FUJITA¹, Toshiko HOSAKA², Akiko SWAN³, Akihiro MASUOKA⁴, Hiroaki OKUMOTO⁵,
Akira MORITA⁶, Takashi KAWAMOTO⁷, Seinosuke NARITA⁸, and Yong-Ju AN⁹

¹Waseda University, 1-6-1 Nishiwaseda, Shinjuku-ku, Tokyo, Japan
shinichi@aoni.waseda.jp

²Waseda University, 1-6-1 Nishiwaseda, Shinjuku-ku, Tokyo, Japan
t-hosaka@aoni.waseda.jp

³Waseda University, 1-6-1 Nishiwaseda, Shinjuku-ku, Tokyo, Japan
masuoka@narita.elec.waseda.jp

⁴Waseda University, 1-6-1 Nishiwaseda, Shinjuku-ku, Tokyo, Japan
okumoto@narita.elec.waseda.jp

⁵Waseda University, 1-6-1 Nishiwaseda, Shinjuku-ku, Tokyo, Japan
shinichi@aoni.waseda.jp

⁶Waseda University, 1-6-1 Nishiwaseda, Shinjuku-ku, Tokyo, Japan
aquila@waseda.jp

⁷Waseda University, 1-6-1 Nishiwaseda, Shinjuku-ku, Tokyo, Japan
kawamoto@waseda.jp

⁸Waseda University, 1-6-1 Nishiwaseda, Shinjuku-ku, Tokyo, Japan
narita@waseda.jp

⁹Sunmoon University, Kaisan-ri Tangeong-myeon Asan-si Chungnam 336-708, Korea
yjan@omega.sunmoon.ac.kr

Abstract

In this project, we developed a website to provide web-based multimedia materials for Japanese language learners in Japan and overseas. Materials include: distance learning using a voice bulletin board system, a video-based program with a speech recognition system, e-learning video materials for foreign students to help them understand cultural differences, and Web-based supplementary materials to show students their areas of weakness. These materials are being used in Japanese language classes offered at Waseda University and other institutions. Primarily, this paper introduces the distance learning system using a voice bulletin board. We tested this project with 30 students at Sunmoon University in South Korea and found that some pronunciation problems, such as devoicing vowels at the ends of sentences and pronouncing the paraphrase/phrase end less strongly, were corrected. Continuous correction feedback was very effective overall in encouraging students to learn natural Japanese pronunciation.

Keywords: Japanese as a second language, e-learning

1 Introduction

Recently, many people have been using the Internet to learn Japanese, given the increasing interest in learning this language and the variety of ways to learn that are available now using IT technology. The authors have been providing the following trial multimedia Web-based materials to students at Waseda and Keio Universities; in addition, individuals outside Japan have been using them to learn Japanese.

- A) Distance learning using a bulletin board system (BBS), aimed at improving a learner's speaking ability: <http://atj.narita.elec.waseda.ac.jp>, ID: demo_student, PW:demo

- B) A video-based program with a speech recognition system: we developed this experimentally to enable students to practice paired transitive and intransitive verbs by pronouncing an appropriate verb in a given situation: <http://vivtvideo.narita.elec.waseda.ac.jp>
- C) E-learning video materials for foreign students to help them understand cultural differences: <http://shushoku.narita.elec.waseda.ac.jp>
- D) Web-based supplementary materials to show students their areas of weakness: <http://tj.narita.elec.waseda.ac.jp>

This paper focuses on A): a distance learning system that uses a bulletin board. For information on the other materials, please contact the authors by e-mail.

2 Distance learning using a bulletin board system

For many years, experts have said that developing the ability to communicate is the most important goal in language education. Learning Japanese is the same as learning any second language, and many types of learning programs have been developed that are aimed at increasing learners' communication and interaction skills. Many students of Japanese want to speak like native Japanese speakers. Their teachers, too, want them to develop a natural pronunciation at the early stages of learning. There are currently a number of Web-based resources available for learning Japanese, including audio materials and some audio/visual materials, but it is very difficult for students to learn accuracy and naturalness in pronunciation independently. They need assistance from native Japanese speakers and teachers. In general, the chance to interact with native speakers from overseas is limited. Even the teachers are often non-native speakers, which limits the ability of Japanese language students to accurately check their pronunciation or to practice their skills.

We have developed a website that uses a bulletin board system (BBS) to provide overseas students with assessment and feedback from native Japanese speakers. This website helps students to acquire the ability to speak Japanese accurately and with good pronunciation. The website has provided distance education to beginner-level students in South Korea since March 2004. The following sections introduce the system's content and outline, examine its effectiveness based on practice results, and set out future developments.

3 System Overview

The system enables students of Japanese to be assessed by, and gather correction feedback from, native Japanese speakers, using the voice bulletin board system.

3.1 Log-in screen

Once users connect to the website, there are three choices: 'student', 'student teacher', and 'teacher'. 'Student' refers to Japanese learners, 'student teacher' refers to an assistant (a Japanese native speaker), and 'teacher' refers to the person who gives the lectures and manages the website. When users have chosen a role, the login screen shown in Figure 1 is displayed. When they have logged in with their user-ID/password, the index page loads. There are three choices: 'voice BBS', 'video BBS', and 'video chat'. When a user chooses 'voice BBS', the screen shown in Figure 2 loads.

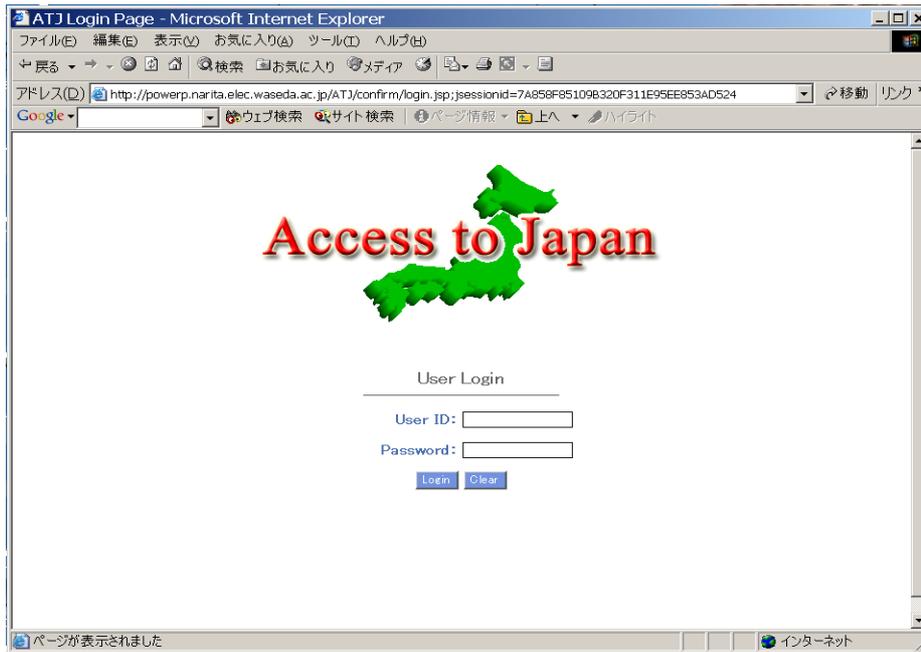


Figure 1. Login screen.

3.2 Voice bulletin board system screen

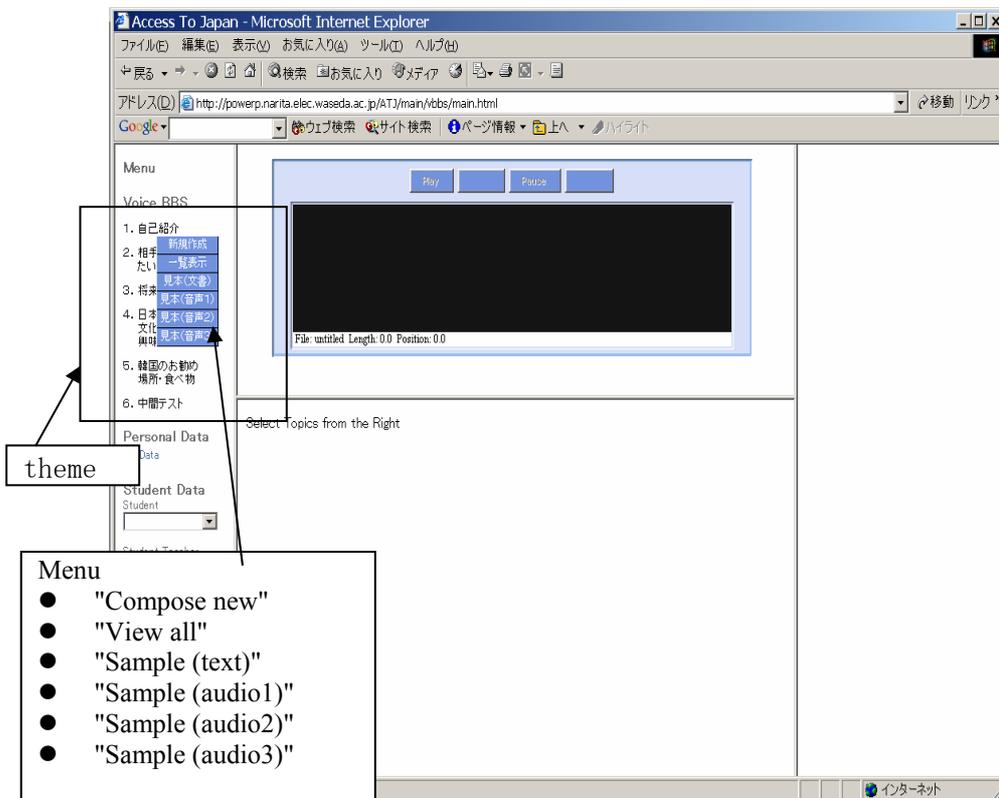


Figure 2. Voice bulletin board system.

The voice BBS allows learners and assistants to exchange text and audio information. The system has a

recording feature, and an uploading feature using audio, Word and PDF files. All the messages are categorized by themes. First, learners create a composition based on a given theme (e.g., "introducing oneself"). Then, they produce an audio file by reading their composition. Second, they upload their text/audio files to the bulletin board. Native Japanese speakers assess and correct the errors in the files, and upload a revised version of the text file and a sample audio file.

There are four frames in the voice BBS screen, shown in Figure 2. Users choose a theme and one of several options: "Compose new", "View all", "Sample (text)", or "Sample (audio)". Choosing "Compose new" starts the learning activity. When assistants want to assess a file, or learners want to view the assessment, they can choose "View all".

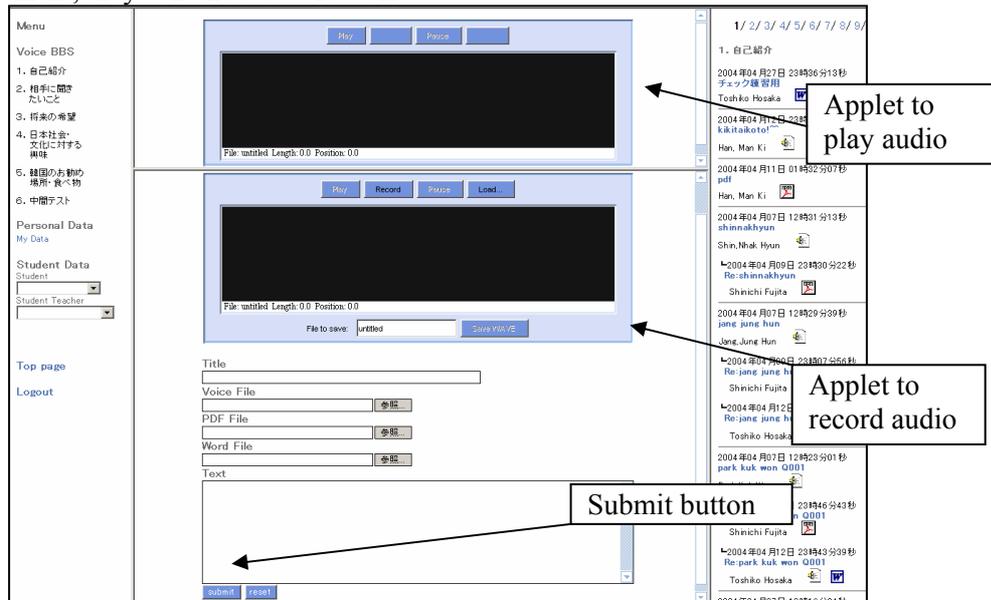


Figure 3. "Compose new" screen.

Choosing "Compose new" results the screen shown in Figure 3, where they can compose BBS documents in the lower frame. The upper frame has a JAVA applet to play audio and users can see the wave patterns of the audio files. Learners produce text files and save them as Word or PDF files. They can then compose audio files by reading the texts aloud using the audio applet in the lower frame. To prepare the "wav" files, they name the file and click "save". Learners type a suitable name in the "title", select the composition file and the audio file to upload, and click "submit".

When users choose "View all" from the left frame, all the threads are revealed in the right frame, shown in Figure 4. If they click the title, the contents are shown in the lower frame. Similarly, clicking the audio icon allows users to listen to audio applets in the upper frame. Clicking Word or PDF icons opens different windows. Assistants assess the compositions and audios sent by learners, and then compose a revised Word file and click the "response" button. Assistants record and upload sample audio files so that learners can listen to the differences and practice them. By providing many interactions for each theme, our goal is to encourage learners to pronounce Japanese correctly and to improve their expression.

3.3 Other features

In general, learning is done using the asynchronous voice BBS, but the system offers additional features such as video BBS and video chat. These features enable people to exchange images and to carry out synchronous distance learning using these features. Learners and assistants can have face-to-face interactions and dual-directional communication with audio and images encourages students to understand cultural differences.

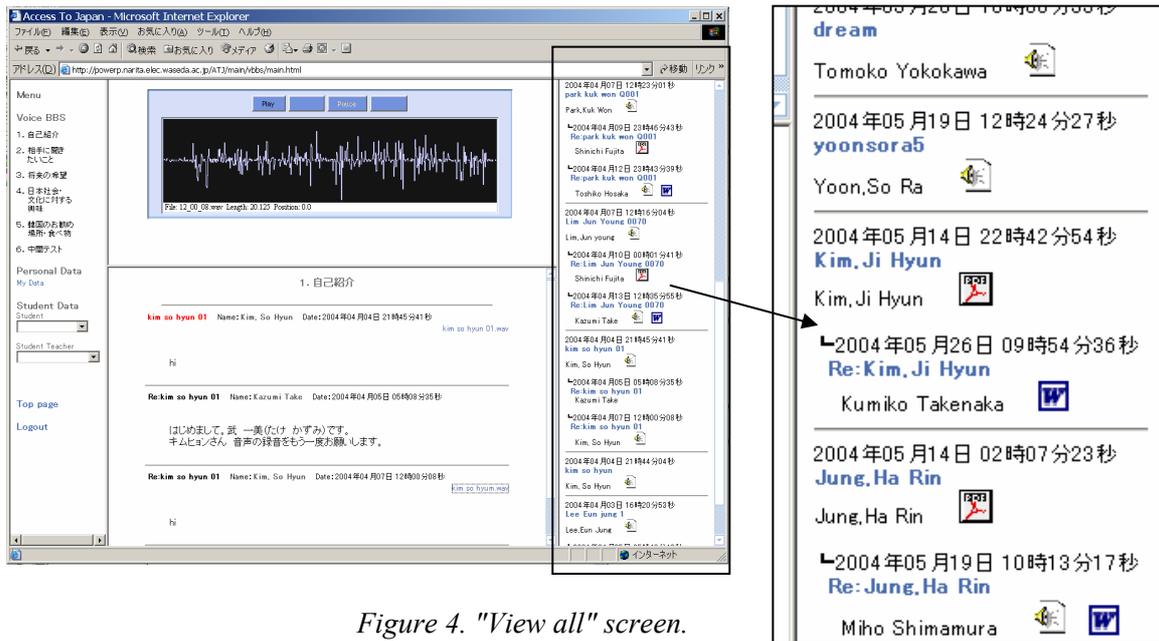


Figure 4. "View all" screen.

4 Outline of the education practice

We have offered this distance-learning system to students of Japanese in South Korea since March 2004 (the start of the Korean spring term). Below are the outlines of the practice.

4.1 Object persons ("student")

Participants were 43 students at Sunmoon University (South Korea) taking a beginner Japanese language course. Many of them were majoring in Japanese language, and most were first-year students. The course was called "Japanese for beginners"; some students had been studying Japanese since high school and had already passed the first grade of the Japanese Language Proficiency Test, but some students had never studied Japanese. In the "Japanese for beginners" course, students studied Japanese for nine hours a week, one of which was conducted through distance education on the Web, and the other eight hours were based on textbook learning.

4.2 Assisting organizations ("student teacher")

Our student teachers included native Japanese speakers who were studying at Japanese universities such as Waseda University; they included graduate students majoring in Japanese language education, individuals taking the "Japanese language teacher training course", and university members in an interactive international club. There were also some teachers and volunteers with experience in teaching Japanese.

4.3 Procedures

Below is the procedure for using this distance learning education system.

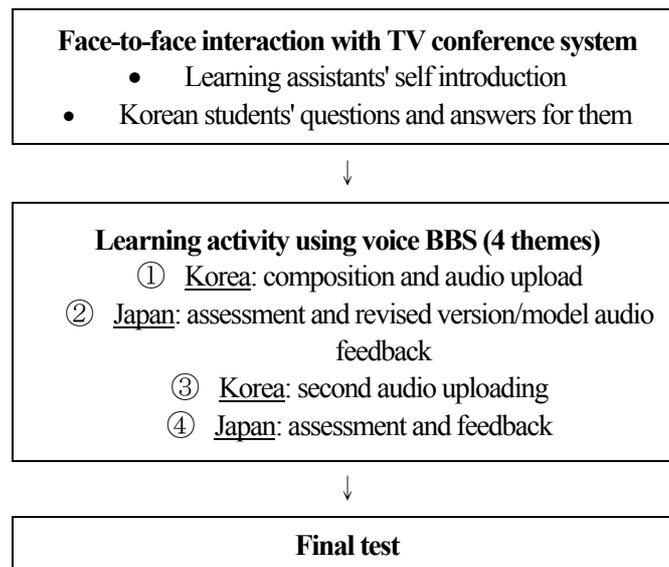


Figure 5. Procedure.

We asked students and assistants to introduce themselves and then we started using voice BBS based on four themes: “introducing oneself,” “questions to the person you are taking to,” “future plans,” “recommend a place and a type of food.” Each theme was completed in two lessons. The first lesson of each theme began with Korean students reading out the sentences they had prepared beforehand, and had uploaded to the voice BBS. Assistants assessed each file, correcting errors and providing feedback, before the start of the next lesson. In the second lesson, students checked the revisions in the text/audio and practiced by listening to the sample audio. After practicing, they recorded their second attempts and uploaded them. Assistants marked those files by the second lesson and sent the revisions and comments to the students. Students completed the four themes using the above procedure, and the final test required students to record their voices on the spot with the theme of “introducing oneself.”

5 Results

Of the 43 students who participated in the distance learning class, 30 took the final test. Only nine of the students actually performed all the interactions. We did a comparison between students’ first and second attempts at “introducing oneself” (audio), and between the first and final audio file they uploaded.

5.1 “Introducing oneself”: Comparing the first and second attempts

Korean students tended to have problems with:

- ①. Confusion over resonant/consonant sounds
- ②. Difficulty devoicing the “desu”/“masu” at the ends of sentences
- ③. Pronouncing the paragraph/phrase ends strong and long
- ④. Confusion over double-consonant/nasal/prolonged sounds
- ⑤. Difficulty lengthening for double-consonant/nasal/prolonged sounds enough
- ⑥. Pronouncing the un-prolonged part too long
- ⑦. Confusion between “Sa/su/so”, “za/zu/zo” and the contracted sounds of “sha/shu/sho”, “ja/ju/jo”
- ⑧. Pronouncing “tsu” as “chu”

We examined how these areas progressed and whether or not the correction feedback led to improvements.

Example 1. First result of learner A's "introducing oneself."

はじめまして。わたしは****です。
 鮮文大学の一年生です。
しゅみはおんがくのかんそうです。
 どうぞよろしくお願ひします。

Example 2. Second result of learner A's "introducing oneself."

はじめまして。わたしは****です。鮮文大学
 の一年生です。趣味は音楽の鑑賞です。
 どうぞよろしくお願ひします。

Examples 1 and 2 are the results of the first and second attempts of learner A. Example 1 includes feedback information about the pronunciation and grammar errors in the sentences the learner produced. Example 2 includes audio feedback about the revised sentences. Bold and italic text shows spelling and grammar mistakes, and double underlined parts indicate pronunciation errors. Learner A had never studied the Japanese language before. When we compare Examples 1 and 2, it is clear that the correction feedback had a pronounced effect on improving the pronunciation. The pronunciation problems, ② and ③, in Example 1 are corrected in Example 2. The pronunciation of "ichi-nen-sei" also became natural in Example 2. "Shumi wa ongaku no kansou desu (my hobby is music appreciation)" had been pronounced incorrectly, but was corrected following feedback. However, "shumi" became "shuumi", shown in problem ⑥. The word "kansho" was at first pronounced and spelled incorrectly as "kanso". This could have been because the student had memorized the word incorrectly; however, from a pronunciation point of view, problem ⑦ was corrected in the second attempt. This shows that correction feedback worked very well for learner A.

However, correction feedback does not work well for every student. For problem ②, many learners' pronunciations were corrected in their second attempt, but for problem ③ it depended on the individual student. Similarly, for ⑦ students pronounced "kazoku" and "douzo" as "kojoku" and "doujo", which were not corrected, even at the second attempt. Learner A did not have problems ① and ⑧, but other learners did, pronouncing "benkyo" and "drama" differently with resonant sounds; additionally, "tsuuyaku" became "chuuyaku." None of these errors were corrected. For the other student, "Nihon-no" was never pronounced correctly, and instead it was pronounced as "nihono", with not enough length of the "n" sound.

5.2 "Introducing oneself": Comparing the first attempt and the final test

For the first self-introduction, learners prepared sentences introducing themselves, and recorded themselves reading the sentences aloud; however for the final test, they recorded their voice without preparation. Comparing these two tests, every student spoke for a longer time on a greater variety of topics in the final test. Example 3 is learner A's final test:

Example 3. Final test result of learner A.

はじめまして。わたしは****です。鮮文大学の1年生です。天安に住んでいます。私の家族は4人です。私の趣味は音楽を聞くことです。音楽は、日本の歌が、バラードが好きです。日本語と勉強は難しいですが、面白いです。性格は内気です。しょうらっきの希望は通訳官です。日本と韓国は結ぶ仕事がしたいと思っています。

In the first test, learner A created only five sentences compared with 11 sentences in the final test. In the first test, learner A limited the themes to "name", "grade", and "hobby", but in the final test learner A also spoke about "address", "family", "studying Japanese", "character", and "future plans". The hobby section was originally "music appreciation", which changed in the final test to a more natural sounding "listening to music". However, learner A failed to devoice the vowel of "desu" in the final test (although it was devoiced in the second test), which shows some paraphrase-ending problems.

Learner B, on the other hand, pronounced paraphrase/phrase ends strongly in the first test (Example 4). This did not improve much, even after the correction feedback. However, he succeeded in pronouncing it quietly enough to make it sound like a natural Japanese pronunciation (Example 5).

Example 4. First result of learner B's "introducing oneself".

はじめまして。私は****と申します。
*SunMoon*大学の日本語・日本語学科の一年生です。私のしゅみは音楽を聞くことです。音楽の中で、日本のクラブ、しぶやけいというジャンルが一番好きです。
 (以下 省略)

Example 5. Final test result of learner B.

はじめまして。私は****と申します。韓国の年で二十歳です。今鮮文大学の日本語・日本語学科の一年生です。私はソウルに住んでいます。私の趣味は音楽を聞くことです。また、CDを集めることも私の趣味です。
 (以下 省略)

6 Review and future tasks

Overall, continuous correction feedback was effective in encouraging students to learn natural Japanese pronunciation. Our results show that some pronunciation problems, such as devoicing the vowels at the ends of sentences and pronouncing the paraphrase/phrase end less strongly were corrected. Some students had improved pronunciation immediately after the feedback, but there were times when it never improved. This indicates that the effects of voice BBS depend on the type of pronunciation problem and on each learner. Some pronunciation problems may result from the Korean pronunciation structure. In Korean, dull sounds never appear at the beginning of a sentence. This affects the pronunciation of "benkyo", which becomes "penkyo", and "drama", which becomes "trama". This is because the feedback only clarifies errors and leaves the learners to practice by themselves. The differences pertaining to each learner dictate how they use the materials and how much they are aware of their own errors. Our project offers correction for learners in the form of text/audio grammar, underlined information of unnatural expressions, corrected sentences, and sample audio. By using these materials, learners can analyze their own mistakes and compare their speaking with the sample audio, giving them the ability to self-correct. We did not clarify this concept to the learners and did not make it clear in the process of the learning activity itself. This should be re-examined and revised in the future.

Based on our results, we would like to examine how a mother tongue affects learning, and how to encourage learners to use the materials more.

Acknowledgements

This research was supported by a Waseda University Grant-in-aid for Special Research Projects and a Grant-in-aid for Research Project by The Japan Association for Language Education and Technology.