

## **Computer-mediated instruction using *ondoku* practice for developing elementary school students' pronunciation skills**

Steven Wong

Natsuko Shintani

### **Abstract**

This article reports on an elementary school teacher's research project that evaluated a new teaching practice for Japanese elementary school students. The project was conducted in two fifth-grade classes comprising a total of 59 students. The teacher-researcher designed a computer-mediated instructional activity consisting of four-steps called *ondoku*, which engaged individual students in reading a given story aloud. It involved the students (a) studying a model reading-aloud video, (b) video-recording their own reading-aloud performance, (c) receiving teacher corrective feedback on their pronunciation and (d) studying the feedback and recording and then submitting a second performance. All the steps were carried out in sequence using individual iPads. The teacher also administered a questionnaire to examine students' engagement in and perspectives regarding the activity. Analysis involved comparing the pronunciation in the first and second corrected video files. The results showed that feedback led to successful repair 62 times out of the 108 corrections. In 16 instances, the students were aware of the error and attempted repair but still produced an incorrect utterance. In 30 instances, the students made no repair. Reflecting on the results and the students' responses to the questionnaire, the teacher proposed some changes to the activity.

computer-mediated language teaching; pronunciation instruction; young learners; corrective feedback

## Background

### *Ondoku* Activity

*Ondoku*, translated from Japanese as ‘reading aloud,’ is a teaching technique that Japanese teachers of English in elementary and high schools frequently employ. In an *ondoku* activity, teachers ask individuals or the entire class to read aloud passages from their textbooks chorally. Teachers may also choose to read aloud initially themselves, after which students repeat in unison while simultaneously reading the passage. Despite its controlled nature, the *ondoku* technique offers a number of pedagogical advantages for teaching contexts in Japan. Because English classes typically consist of 40–45 students who generally have little communicative skill in English, implementing communicative pair tasks is not realistic in most cases<sup>1</sup>. By using *ondoku* activities, the teacher can easily have all students vocalise in English without the need for the latter to compose utterances. As an additional benefit, students are less likely to be anxious about pronouncing English because *ondoku* does not require spontaneous production.

However, traditional *ondoku* requires reading the text aloud, usually repetitively from textbooks; therefore, the practice does not necessitate comprehension of the text. As a counterbalance, some teachers modify traditional *ondoku* by using graded readers that provide an opportunity to pay attention to the meaning of the text. By replacing decontextualized text with more authentic stories, the activity may be useful in that it allows students to try to convey what the texts say to the teacher (Nation, 2009). Bryan (2008) argued that instructors should take into account their students’ cultural values when teaching English in elementary schools; *ondoku* is one way of doing this.

*Ondoku* might be a more effective way of improving L2 pronunciation when combined with explicit corrective feedback. Explicit feedback on *ondoku* production might lead to ‘noticing’ (Schmidt, 2001) by drawing learners’ attention to sound-sized units of L2

phonological information. This process can lead learners to notice the perceptual difference between the L2 sound and its L1 counterpart – a potential first step towards L2 phonological development (Flege, 1995, 2003; Kuhl, 2000, 2004). Reading aloud allows this comparison to take place easily, resulting in self-repair, which can facilitate learning. While research provides evidence of the effectiveness of feedback on pronunciation, all studies to date have examined adult learners (Lee et al., 2015). The study reported below focused on children.

### **Computer-Mediated Instruction**

The current study also aims to explore the possible affordance of computer-mediated communication (CMC) in English education in elementary schools in Japan. This technological tool has recently been applied in various language teaching classrooms. A number of practical reasons govern using technology. CMC is independent of time and place, allowing teacher–student or student–student communication outside the classroom.

Moreover, the availability of multimedia resources such as audio and video recordings can expand the kinds of information made available to the students. In addition, using technology makes online feedback quick and easy, removing the need to devote valuable time to giving feedback to students individually outside of class. Online corrective feedback may also cause less anxiety and be less threatening compared to face-to-face instruction (Colomb & Simutis, 1996).

The current study investigated an assignment activity incorporating CMC technology. One reason for this decision was that the school where the researcher worked had made a considerable investment in purchasing and regularly updating information and communications technology (ICT) equipment. Since the school had been chosen as an *Apple Distinguished School*<sup>2</sup>, the teachers had abandoned chalk and talk and instead searched for innovative ways to use technology in their teaching. The students had become adept at using an iPad and found using it as a learning tool motivating.

## The Study

A teacher-researcher, one of the authors, conducted a research project in his classroom. He has taught English for 20 years to young Japanese learners in public and private elementary schools as well as in an immersion kindergarten. To explore the effects of the instructional activity he designed, the authors conducted an exploratory research project, which addressed the following research question: How do students respond to a computer-mediated *ondoku* activity involving English pronunciation?

### Participants

The activity was conducted in two classes involving 59 Japanese fifth-grade students between the ages of 10 to 11 years. The native language of all the participants was Japanese. Although each student had received English instruction since the first grade, their English proficiency level varied between pre-A1 to lower B1 on a scale based on the Common European Framework of Reference for Languages (CEFR) in the Test for Practical English Proficiency (EIKEN test). The teacher had previously provided explicit and implicit feedback on segmental and suprasegmental features. However, at the time of the activity, instruction had only focused on the /b/ vs. /v/ and /r/ vs. /l/ sounds.

### Materials

A four-step activity to engage students in input and output in the *ondoku* activity (see Figure 1) was designed. This activity included the following steps:

1. Students performed a dictation activity to help them make the connection between the text and sounds.
2. Students video-recorded their *ondoku* performance.
3. The teacher provided feedback.
4. Students made a second video-recording of their performance.

The cyclical nature of the activities entailed two important elements of pronunciation development as Saito (2013) suggested: (a) learners had to listen carefully to the teacher's model pronunciation (listening practice), and (b) learners were pushed to practice correct pronunciation forms (pronunciation practice).

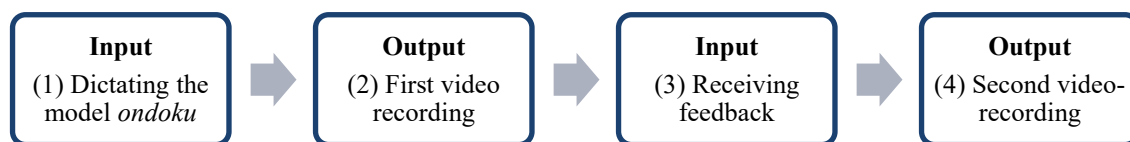


Figure 1. The *ondoku* activity cycle.

A dictation activity was included in this study in order to orient students' attention to the sounds in the material. The picture book shown in the video-clip allowed the students to check their dictated text themselves and compare the sounds and the written text to make connections between them. Then, the students were asked to video-record their *ondoku* after receiving feedback to self-check whether they had successfully corrected their pronunciation. According to Lynch and Mendelsohn (2002), during practice, learners should be aware of sounds as well as give attention to the stress and intonation of words. Field (2003) further asserted that contractions, chunks, assimilation and re-syllabification should be attended to carefully. Requiring students to record their *ondoku* performance ensured that they would pay careful attention to their own pronunciation, which might lead to improvement.

The project employed a Level 4 graded reader, *Dragon Danger*, published by Oxford University Press. The book's level was slightly higher than the students were accustomed to, and the teacher did not provide a Japanese translation. The rationale for such a selection was as follows:

- The words were not abstract, and providing pictures from the book in combination with the rising and falling pitch from the model video helped students work out the

meaning of the story;

- the process allowed for implicit learning while saving the instructor valuable time from delivering an explanation;
- using this approach shows the learners it was not necessary to rely on Japanese translations, nor to always rely on the teacher for an explanation; and
- the students had opportunities to sharpen their skills in using dictionaries (on their iPads or electronic dictionaries) to search for meanings of unknown words.

To provide the *ondoku* model, the teacher-researcher video-recorded his reading the text aloud and made a video clip with a picture-in-picture video with his iPad (see the screenshot picture in Figure 2). The smaller screen located at the top right shows a video clip of the teacher reading the complete text aloud, while the larger main screen displays the text from the book (which also serves as subtitles for the video); the pages turn as the reading proceeds. The use of the picture-in-picture video that simultaneously showed the text from the graded reader and the teacher's reading of the text was informed by dual modality research, which suggests that presenting material in both text and audio formats leads to greater retention than the spoken format alone (Brown et al., 2008). The file was uploaded to an assigned folder in the *iTunesU* online electronics portfolio. A notification along with instructions for the assignment was sent to each student's iPad.



Figure 2. Example of the picture-in-picture video material.

A questionnaire was designed to examine the students' perceptions of this type of read-aloud assignment. The questionnaire, written in Japanese, contained five multiple-choice questions and one open-ended question. The students completed it in Japanese after finishing the assignment. Out of 59 students, 58 completed and submitted the questionnaire. Appendix A presents an English translation of the questionnaire.

### Procedures

In class, the students were instructed to download and watch the video on their tablets. Then they were given a worksheet (Appendix B) to help them transcribe the text at home. The worksheets were collected within a two-day period, corrected for errors, and immediately returned to the students. The students were advised to watch the teacher's video several times and rehearse the text while paying attention to individual sounds, speed of speaking, stress and intonation. At home, the students created their *ondoku* video, reading aloud from the worksheet while making a self-recording on their tablets. Their video files were due to be uploaded via *iTunesU* within a week. Students submitted their recordings through an online system, which enabled the teacher-researcher to provide feedback on each student's pronunciation in a personalized comments section. Feedback was provided for no

more than two errors for each student on the grounds that focused feedback would reduce the students' cognitive burden and possibly enhance their motivation.

Feedback covered both suprasegmental and segmental features. The former included general comments such as 'Nice flow and rhythm' and 'Good overall pronunciation'. This feedback was given bilingually in the form of English comments followed by a Japanese translation. Next, the teacher provided segmental feedback monolingually in Japanese to avoid any misunderstanding. For the latter, the International Phonetic Alphabet (IPA) was not used because the non-alphabetical symbols and diacritical marks could have caused confusion and anxiety for students. Instead, the teacher selected a system that respells words as they are pronounced. For example, in Figure 3, the student pronounced 'roared' as /ror.red/ in the sentence 'Go away, she roared'. The teacher-researcher provided feedback in Japanese, '*ROARED no tadashii hatsuon wa, ROA-RED jyanakute ROORD desu. naoshite kudasai*' (The correct pronunciation of 'ROARED' is not 'ROA-RED', but 'ROORD'. Please correct it).

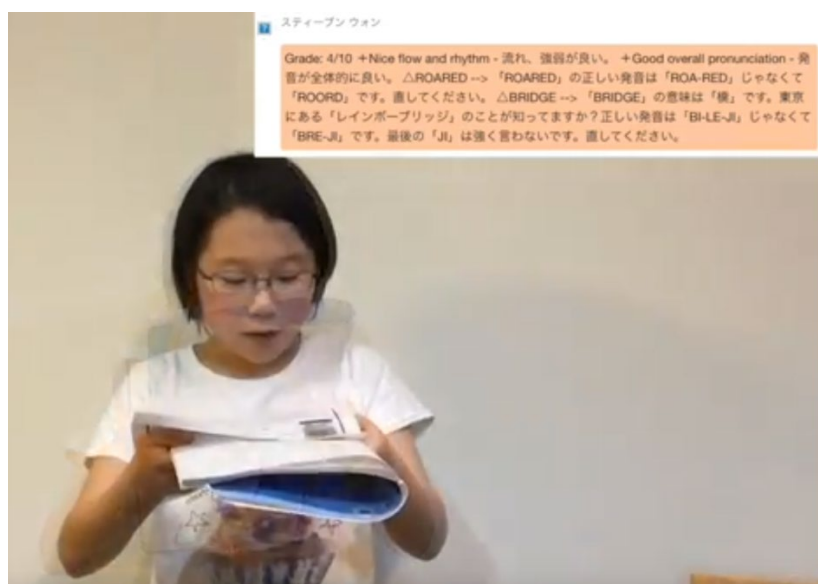


Figure 3. Example of feedback using the comment function.



When providing feedback, the teacher-researcher took each individual student's level of proficiency into account. For those students who had attended English language schools and were of higher proficiency, he provided more complex feedback directed at suprasegmental aspects of their read-aloud recordings. In contrast, for students who had not attended English language-related institutions his feedback focused on improving the pronunciation of high-frequency words.

Students were asked to attend to the teacher's feedback, review the teacher's video again, rehearse and then record a second *ondoku* video to hand in the next week. The videos were again uploaded via *iTunesU* and subsequently downloaded and reviewed by the teacher. The teacher entered a score (10 points maximum) in each student's comment section along with notes in Japanese about whether he or she was successful in making use of the feedback.

### **Findings**

To investigate whether the *ondoku* assignment led to the students' self-repair of problematic pronunciation, each individual student's first and second recordings were compared based on the following criteria:

1. Compared to the first video, if the second video had more errors and the sentence containing the target repair was full of pronunciation errors or incomprehensible, it was counted as 'unsuccessful repair'.
2. If the target item was still wrong in the second video but was different from the first video and otherwise the sentence where the repair occurred was comprehensible, it was counted as 'attempted reformulation'.

Analysis of the second video showed that the 59 students received 108 instances of corrective feedback. Of the 108 corrections, in 62 instances (57.4%) the feedback led to successful repair in the second video. In another 16 instances (14.8%), some reformulation

occurred (i.e., the students were aware of the error, attempted to repair, but still produced an incorrect utterance). Lastly, 30 instances (27.8%) showed no repair.

Table 1 displays the number of responses ( $N$ ) and percentages (%) for each of the survey questions. The total number of students who participated in the survey was 58.

Question 5 allowed multiple selections.

Table 1

*Survey Results for the Multiple-Choice Questions*

	Questions	N	%
1	Did you take into account the feedback provided when creating your second video?		
	__ Yes, I took it into account and used it to fix my errors.	16	27.6
	__ Yes, I took it into account but I'm not certain if I fixed my errors.	35	60.3
	__ No, I didn't take it into account.	6	10.4
	(No answer)	1	1.7
2	Did you comprehend the feedback provided?		
	__ Yes, I understood it well.	32	55.1
	__ Yes, for the most part. There were areas I was uncertain about such as the pronunciation notation.	23	39.7
	__ No, I didn't understand it.	2	3.5
	(No answer)	1	1.7
3	How many times did you watch the teacher's video?		
	__ Over 6 times.	23	39.7
	__ 3 to 5 times.	21	36.2
	__ 0 to 2 times.	14	24.1
	(No answer)	0	0
4	Did you feel you did your best with the assignment?		
	__ Yes, I tried my best.	39	67.2
	__ A little.	10	17.3
	__ No, I didn't do my best, but I will try harder for my next assignment.	9	15.5
	__ No, I didn't try at all.	0	0
	(No answer)	0	0
5	What do you want to change for the next <i>ondoku</i> assignment? (multiple selection is possible)		
	__ I want to know the meaning of the story in the graded reader. For example, by having a Japanese translation	35	
	__ I don't need a full Japanese translation, but a list of difficult English words and its meanings would be helpful.	24	
	__ I want the teacher to speak more slowly in the video.	21	
	__ I like the assignment just as it is.	11	
	(No answer)	0	

The answers to the last question – ‘Please write your thoughts and reflections about the assignment’ – were classified into categories. Table 2 provides a summary of the results.

Table 2

*Survey Results for the Open Question*

Category	Responses (the number of the similar comments in parentheses)
Model	There were some difficult words but listening to the teacher reading the story ( <i>ondoku</i> ) made me understand (2).
Feedback	Teacher’s feedback was easy to understand and helpful (2). I didn’t understand the feedback (1). I would like to know the meaning of ‘roared’ (1). Please provide an ‘explanation video’ as well as the model video (1)
Materials	It would be easier to read if the text were easier (2). It was easy, but there were some difficult words (3). I want the next assignment to be ‘Biff and Chip’ stories again (1). I would prefer a longer story (1).
Assignment	I want to have some explanation of difficult words (6)
Procedures	I want to have a Japanese translation (5). I want more time for this assignment (4). I want the English script from the beginning (2). I like this homework (1).
Students’	I would like to be able to speak better (4).
Engagement	I didn’t watch the video so much so I will do it more for the next assignments (3). I would like to pronounce more clearly (3). I video-shot many times before submitting (2). It was hard at the beginning, but now I feel it’s easy (1).
Family	Mother said I should make a smooth link between words (1).
Support	Mother said my pronunciation was bad (1). Mother said that I could compare my pronunciation with the teacher’s (1). Mother made me re-record 3 times (1).

In the two fifth-grade classes, 12 out of 59 students seem to have struggled with speaking tests as well as in their *ondoku* readings during their English classes. Their data was extracted from the aggregate statistics. Out of 24 cases of feedback provided following their first video, in 18 instances (75%), the students either successfully made repairs or attempted a reformulation but failed; six instances (25%) produced no repair. These percentages nearly align with the aggregate data, 72.2% and 27.8%, respectively. As a whole, these students performed as well as or slightly better than average from the total data.

The results also revealed several issues about the activity. Most students (60.3%) were uncertain whether they had corrected their errors. Of all students, 39% were unsure about the pronunciation notation used in the feedback (e.g., [RO-ORD] for 'roared'). In fact, two out of 58 students who indicated that that they did not understand the notation failed to improve in pronunciation. These results suggest that students who did not improve their performance might have had difficulty understanding the teacher's feedback. As the students must study this kind of feedback by themselves in order to improve their *ondoku* performance, it is crucial that they can understand it.

The survey results showed that nearly a quarter of the students watched the model video only two times or less, even though the teacher asked them to watch repeatedly. The questionnaire also indicated that 31.5% of the students admitted they did not work as hard as they should. The students who successfully improved their pronunciation after receiving feedback were those who listened to the model and practiced correcting their errors many times. Thus, the results underlined the need to encourage the students to listen to the model many times.

Many students claimed that they wished to have a Japanese translation of the story. This suggests that providing more help, such as making a list of keywords available, may be

needed to help students to understand the story. Nation (2009) further suggested pre-teaching unknown words and their pronunciation and then practising them in an exercise before the activity. This step, in addition to providing a separate word list, acts as a scaffold for a follow-up activity.

The survey also afforded a number of insights. The first concerned parental involvement. Since the students completed the assignment at home, many comments referred to how mothers actively pushed their children to enunciate clearly and to speak more slowly. Although it was expected that working from home would reduce anxiety, the results suggest that pressure from caregivers might actually increase it. The survey results also suggested that the students considered proper pronunciation important. Many stated that good pronunciation leads to successful communication and expressed a wish to improve their pronunciation. Some indicated that they thought continuing with the *ondoku* assignments for a year would improve their pronunciation and speaking skills.

### **Conclusion**

The study was motivated by the teacher-researcher's desire to improve students' pronunciation and the need to incorporate new technologies in his teaching. The results indicated that a combination of video-recorded read-aloud modelling of pronunciation and explicit feedback led to successful repair. The survey results suggested that most of the learners understood the feedback and considered it useful. The investigation has raised various issues and helped the teacher-researcher to develop his understanding and knowledge about his teaching practice and how to improve it. It is also worth noting that, through this project, the students were given an opportunity to express their own views by answering the questionnaire. For example, one student answered, 'The video gives me the pronunciation, so I want to have a list of new words', and 'It is easy to read the text, but there were some words that I didn't know; I want to have a Japanese translation or explanation of difficult words'.

Such comments indicate that these elementary students were able to evaluate the activity and consider how to modify it to increase its effectiveness.

Some limitations include that we did not have any comparison group, and the evaluation of the pronunciation development was highly subjective. While it is not possible to generalize the findings due to the nature of practitioner research, the study provided insight into the importance of feedback in improving pronunciation in a foreign language context and how it can be achieved effectively using technology. Thus, the study serves as a starting point for formal research investigating the effect of repair on pronunciation when reading a text or engaging in spontaneous conversation.

### **Note**

1. Although this is what teachers generally feel, an input-based task is a possible way to introduce communicative activities for learners at beginner levels (Shintani, 2016).
2. A total of 470 schools worldwide are recognized by Apple Inc. as educational institutions that use Apple technology to create digital materials while having their students use the technology to facilitate learning by encouraging creativity, collaboration, and critical thinking.

### **References**

Altrichter, H., Posch, P. & Somekh B. (1993). *Teachers Investigate their Work*. London: Routledge.

- Brown, R., Waring, R., & Donkaewbua, S. (2008). Incidental vocabulary acquisition from reading, reading-while-listening, and listening to stories. *Reading in a Foreign Language, 20*, 136–163.
- Byram, M. (2008). From foreign language education to intercultural citizenship: Essays and reflections. Clevedon: Multilingual Matters.
- Colomb, G. G., & Simutis, J. A. (1996). Visible conversation and academic inquiry: CMC in a culturally diverse classroom. In S. Herring (Ed.), *Computer-mediated communication: Linguistic, social and cross-cultural perspectives* (pp. 203–222).
- Derwing, T. M., & Munro, M. J. (2005). Second language accent and pronunciation teaching: A research-based approach. *TESOL Quarterly, 39*, 379–397.
- Dörnyei, Z., & Taguchi, T. (2010). *Questionnaires in second language research: Construction, administration, and processing*. New York: Routledge.
- Field, J. (2003). Promoting perception: lexical segmentation in L2 listening. *ELT Journal, 57*(4), 325–334.
- Flege, J. E. (1995). Second language speech learning: Theory, findings, and problems. In W. Strange (Ed.), *Speech perception and language experience: Issues in cross-language research* (pp. 233–277). Baltimore: York Press.
- Flege, J. E. (2003). Assessing constraints on second-language segmental production and perception. In A. Meyer & N. Schiller (Eds.), *Phonetics and phonology in language comprehension and production, differences and similarities* (pp. 319–355). Berlin: Mouton de Gruyter.
- Hyland, K. (2004). *Second language writing*. Cambridge, UK: Cambridge University Press.
- Lee, J., Jang, J., & Plonsky, L. (2015). The effectiveness of second language pronunciation instruction: A meta-analysis. *Applied Linguistics, 36*(3), 345–366.



- Kuhl, P. K. (2000). A new view of language acquisition. *Proceedings of the National Academy of Sciences*, 97, 11850–11857.
- Kuhl, P. K. (2004). Early language acquisition: Cracking the speech code. *Nature Reviews Neuroscience*, 5, 831–843.
- Lewin, K. (1948). *Resolving social conflicts: Selected papers on group dynamics*. New York: Harper & Row.
- Lynch, T., & Mendelsohn, D. (2002). Listening. In N. Schmitt (Ed.), *An introduction to applied linguistics* (pp. 193–210). London, UK: Arnold.
- Nation, I. S. P. (2009). *Teaching ESL EFL reading and writing*. New York, NY: Routledge.
- Saito, K. (2013). Reexamining effects of form-focused instruction on L2 pronunciation development. *Studies in Second Language Acquisition*, 35(1), 1–29.
- Schmidt, R. (2001). Attention. In P. Robinson (Ed.), *Cognition and second language instruction* (pp. 3–32). Cambridge: Cambridge University Press.
- Shintani, N. (2016). *Input-based tasks in foreign language instruction for young learners*. Amsterdam: John Benjamins.

## Appendix A

### An English Translation of the Questionnaire

(1) Did you take the feedback into account when creating your second video? (select one)

- Yes, I took it into account and used it to fix my errors.
- Yes, I took it into account but I'm not certain if I fixed my errors.
- No, I didn't take it into account.

(2) Did you comprehend the feedback provided? (select one)

- Yes, I understood it well.
- Yes, for the most part. There were some aspects I was uncertain about such as the pronunciation notation.
- No, I didn't understand it.

(3) How many times in total did you watch the teacher's video? (select one)

- Over 6 times.
- 3 to 5 times.
- 0 to 2 times.

(4) Did you feel you did your best with the assignment? (select one)

- Yes, I tried my best.
- A little.
- No, I didn't do my best, but I will try harder for my next assignment.
- No, I didn't try at all.

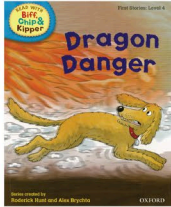
(5) What do you want to change for the next *ondoku* assignment? (multiple selection is possible)

- I want to know the meaning of the story in the graded reader. For example, by having a Japanese translation.
- I don't need a full Japanese translation, but a list of difficult English words and its meanings would be helpful.
- I want the teacher to speak more slowly in the video.
- I like the assignment just as it is.

(6) Please write your thoughts and reflections about the assignment.

# Appendix B

## Transcription Worksheet



Name: \_\_\_\_\_

# Dragon Danger

\_\_\_\_\_.

\_\_\_\_\_.

\_\_\_\_\_.

“ \_\_\_\_\_ ” \_\_\_\_\_.

\_\_\_\_\_.

\_\_\_\_\_.

“ \_\_\_\_\_ ! ” \_\_\_\_\_.

\_\_\_\_\_ ! \_\_\_\_\_ , \_\_\_\_\_.

\_\_\_\_\_ , \_\_\_\_\_.

\_\_\_\_\_.

\_\_\_\_\_ ! \_\_\_\_\_ , \_\_\_\_\_.

\_\_\_\_\_.

“ \_\_\_\_\_ ! ” \_\_\_\_\_.

“ \_\_\_\_\_ ” \_\_\_\_\_.

\_\_\_\_\_.

\_\_\_\_\_.

\_\_\_\_\_.

\_\_\_\_\_.

## **Author information**

Steven Wong  
Kansai University Elementary School  
[stevenwong.0309@gmail.com](mailto:stevenwong.0309@gmail.com)  
7-1-5 Hakubaicho, Takatsuki, Osaka 569-1116, Japan

Natsuko Shintani  
Kansai University  
[natsukoshintani@gmail.com](mailto:natsukoshintani@gmail.com)  
3-3-5 Yamatecho, Siota, Osaka, 564-8680, Japan