

Supporting System to Encourage Self-review in Composition Class — Investigation into the Learner's Reaction

Yan ZHAO*, Haruhiko TAKASE & Hidehiko KITA
Graduate School of Engineering, Mie University, Japan
*419DE52@m.mie-u.ac.jp

Abstract: Composition class to learn a foreign language is effective but has many issues. In this study, we aimed to encourage learners to naturally review their own writing by using a system that points out where they have made errors. The support system provides learners with feedback on where they have made errors. We investigated revising status in composition class using the system. As a result, we clarified that learners who use the system can actually correct their own errors though the system's feedbacks are not completely accurate.

Keywords: Second language learning, composition class, error checker

1. Introduction

In second language learning, there are four skills to be acquired: listening, speaking, reading, and writing. In this study, we focus on writing skill. To acquire writing skills, there is various types of classes. We focus on composition class, especially Japanese learning as second language. Teachers should correct many compositions written by learners in composition classes. It is burden on the teacher.

Many systems to support composition classes have been developed. Some studies have aimed to encourage learners' writing activities. Some of them try to pointing out errors in writing. Sato (2014) stated that many students do not want to be given the correct answer directly by the teacher, but want to be given feedback, using symbols, and so on. Therefore, it is important that feedbacks are given as indirect feedback so that students can notice errors. Therefore, Zhao (2021) focused on a system that encourages learners to revise based on the information of detected errors.

In this study, we investigate the learner's reaction to the feedback of Zhao's system (see Zhao (2021)). Since the system feedbacks provide limited information (only the location of errors) and some feedbacks are not accurate, we investigate whether learners correct their own composition with the system's support or not.

2. System that Encourages Self-review

We simply explain Zhao's system (see Zhao (2021)). Figure 1 shows an overview of the screens of the system. The screen is divided into the following three major parts.

1. Textbox to write a composition

The composition should be typed in the space below the "Answer Box".

2. Submit button

By pushing the button "Submit & Check", the system starts to check the inputted composition.

3. Area for the system's feedbacks

Below the submit button, the system's feedbacks are displayed. They are showing the location of errors in large bold red letters.

First, a learner inputs the composition into the textbox, and pushes the submit button. Next, the system checks it in the background. The checker is based on Zhao's method (see Zhao (2020)), which detects grammatical errors that can be judged from only one clause. Then, the learner receives the

results, which are only the location of errors, and revises the composition. The learner repeats this process and submits the composition to the teacher.

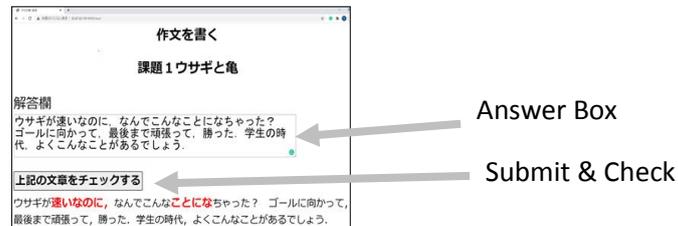


Figure 1. Screen for Learners

3. Problems

The system shows the locations of errors in conspicuous letter. We should pay attention that the feedback from the system is not completely accurate. Because the system checks compositions with the check rules that were automatically acquired from limited data by using machine learning techniques. Some learners may not rely on all system's feedback because of only a few inaccurate feedbacks. Some of the others may completely rely on all feedbacks and fail to correct all errors.

4. Experiment

In this section, we discuss that learners correct their own composition or not according to inaccurate feedbacks by simple experiments. There are two points to be checked. (1) Can learners revise their compositions only from the system's feedback? (2) Can learners find errors that the system missed?

4.1 Experimental Conditions and Procedures

We conducted an experiment that was a composition class using the system with seven Chinese learners of Japanese, whose level of the International Japanese Language Proficiency Test (ILPT) of learners are as follows: 3 N1 level learners, 2 N2 level learners, and 2 N3 level learners. They are 20-40 years old and had been living in Japan for more than 2 years. Each learner wrote a composition, which was 200-300 words, based on the content of a four-panel manga (The Hare and the Tortoise). The procedure for this composition class is shown below.

- Step 1: Before starting the composition, each learner receives guidance for using the system, and answers a pre-assessment questionnaire (20 minutes).
- Step 2: The learner writes a composition by looking at the four-panel manga, receives feedbacks for the composition from the system, and revises the composition (55 minutes).
- Step 3: The learner revises he/she compositions according to the teacher's suggestions.
- Step 4: The learner answers a post-questionnaire (10 minutes)

4.2 Results and Discussion of the Experiment

First, we discuss the first issue: "Can learners revise their compositions only from the system's feedback?". The system pointed out the 213 errors for all compositions. Learners corrected 59 errors of 213 errors and revised 43 errors of 59 errors correctly. It means that only 28% of errors, which were pointed out by the system, were fixed by learners. But the system's feedback was not completely accurate: only 77 errors of 213 errors were accurate. So, learners select suitable feedback and revise them (43 errors of 77 errors = 56%) without the teacher's suggestion. Consequently, learners can revise their compositions only from the system's feedback.

Next, we discuss the second issue: "Can learners find errors that the system missed?". The system missed 34 errors to point out. But learners found 3 errors of 34 errors and revised them correctly. It means that learners inferred similar errors and found some errors by themselves. It does not mean that

learners can find errors without the systems. Learners find errors, since the system stimulated the learners' cognitive activities.

Table 1. *Detail of Review*

	Learners							Total
	A	B	C	D	E	F	G	
Over all corrected what was pointed out to them	67	56	57	57	83	50	41	56
Number of times the learner corrected something that was not pointed out	67	20	0	0	0	0	0	9
Corrected the correct place pointed out and the place pointed out incorrectly	0	0	0	0	0	0	0	0
	(%)							

For additional discussion, Table 1 shows the summary of each learner's revision status of the compositions after step 2. On average, 56% error of the system's suitable feedbacks was fixed by learners. In the viewpoint of each learner, the ratio is from 41% to 83%. Since the worst learner fixed 41% of errors, the system's feedback would be useful for all most learners. Only 9% errors of uncorrected by the system were found by only some learners. Since it would depend on the learner's language skill, it is the natural result. Finally, all 136 errors, which were miss detected errors by the system (213-77 errors), were not fixed by learners. Though the system cannot check compositions completely accurately, learners can judge suitable feedback and fix errors.

Consequently, learners revise their compositions in an inaccurate system. In other words, learners can select correct system feedbacks by themselves and find similar errors which are not pointed out.

5. Conclusion

In this study, we discussed the effectiveness of the system that points out the location of errors to learners of Japanese. We conducted a simple experiment to confirm that learners can revise their errors in composition with the system's feedback. We showed the following results: (1) learners revise 56% errors of system's suitable feedbacks. It means that learners can revise their compositions only from the system's feedback. (2) learners revise 9% errors of the system missed. It means that learners inferred similar errors and found some errors by themselves. These results suggest that the system is not complete but useful for learners in the composition class.

In the future, we will discuss how to reduce the number of incorrect system's feedbacks and conduct further experiments to show the effectiveness of the system.

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