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An Analysis on Learners' Word Reading and Writing in an English Reading-to-Write Task System

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Abstract. Writing is a difficult activity for learners in foreign language learning. Besides the organization and clarity in content, the accurate use of lexical and syntactic knowledge, is needed. Considerable effort has been put in teaching writing to enhance learners' writing proficiency. Reading is regarded as one of the important strategies of enhancing writing proficiency. However, few studies have reported the linguistic knowledge that learners pay attention to and how they use the knowledge of web-based learning in their writings. In this paper, we analyze learners' word reading and writing in an English reading-to-write task system. We focus the words that are read in reading and are written in writing tasks by learners on verbs. Based on the analysis, we assume that word reading may not influence word writing if there are no special Focus on Form approaches to force students' attention on the words and the development of Focus on form approaches for web-based learning environments is needed.

Keywords: Word Reading and Writing, Reading-to-write Task, Focus on Form Approach, Web-Based EFL Writing.

1 Introduction

Writing is considered to be a difficult activity for learners in foreign language learning [1]. Besides the organization and clarity in content, the accurate use of lexical and syntactic knowledge, is needed [2]. Considerable effort has been put in teaching writing to enhance learners' writing proficiency [3-7]. Reading is regarded as one of the important strategies of enhancing writing proficiency. Reading and writing are interdependent and writers' linguistic skills, contextual awareness, and strategies, etc., are influenced by the information in source texts, in writers' prior experiences and learning etc. [3]. It has been stated that learners' writing skills concerning content, organization, vocabulary, and language use are associated with their reading skills [8]. Many studies have focused on the relationship between reading-to-write and writing [9-12]. Most claimed that reading-to-write strongly influences writing. Furthermore, a recent research, while the subjects are children of native English speakers, has reported a longitudinal examination about reading-writing relations and indicated that reading-writing relations are

stronger at the lexical than at the discourse level [12]. Concerning learners of English, it is still an important issue to investigate how reading influences writing in detail not only in face-to-face classrooms but also in web-based reading-writing environments.

On the other hand, as Focus on Form has been emphasized as an effective approach to language teaching, text-enhancement techniques in web-based language learning have been developed to help learners enhance lexical and syntactic knowledge. In reading, learners tend to comprehend the meaning of the text and may pay little attention to the linguistic form. A visual-syntactic text formatting technology that visualizes syntactic structures has been experimentally used on reading to enhance syntactic awareness. The experimental results clarified that the technology raised students' awareness of syntactic structures, and the written conventions and writing strategies of low-proficiency students were significantly influenced by the technology [13].

We have developed an English reading-to-write task system in our previous work to observe how syntactic structures in reading influence learners' writing [14]. In this paper, we analyze learners' word reading and writing by use of the system. We focus the words that are read in reading materials and are written in writing tasks by learners on the verbs. Based on the analysis, we aim to clarify the relation between word reading and word writing in a web-based learning environment and discuss the necessity to develop Focus on form web-based systems on verb-enhancement.

In the next section, we explain the details of the reading-to-write system. We propose the analysis results in Section 3, and then give the conclusion in Section 4.

2 Reading-to-Write Task System

2.1 System

We developed a web-based reading-to-write task system. The system consists of three steps: measuring learners' levels of word recognition, reading-to-write tasks and a recognition test of words in reading materials.

In the step of measuring levels of word recognition, 8 words are randomly chosen from the JACET8000 list at the Level 3000 and the Level 4000 and shown to ask learners the meanings and word familiarity [15].

Two webpages were designed to provide two reading-to-write tasks. Each page included a paragraph essay on the top followed by two related questions. The first question asks if the essay has been read. The second asks to write a response essay in relation to the essay's topic. An input space for writing is given below the second question. Meanwhile, in order to clarify if learners are sensitive to salient syntactic structures, we emphasized visually the present tense verbs in third person singular, which appear on the second page, by coloring the verbs red or green, and using bold-faced type [16].

In order to confirm the effectiveness of the emphasis, we designed a recognition test in the last step. We choose 4 verbs that appear in the first essay (We call the essay Reading_A) in the first reading-to-write task, 4 verbs that appear in the second essay (We call the essay Reading_B) in the second reading-to-write task, 2 verbs that are used in both essays to ask in which essay the words appeared.

2.2 Reading materials

As the study focuses on how word reading influences word writing, easy-to-read materials were used to reduce comprehension difficulties and errors in writing. Two paragraphs, Reading_A and Reading_B, were chosen from a text book for the freshmen of Kobe University. Reading_A and Reading_B consist of 156 words (13 sentences) and 152 words (15 sentences) with the topics focusing on bosses in offices and future jobs, respectively. The questions related to the response essays on the first page were as follows:

- Question 1: Have you read the paragraph before?
- Question 2: Please write a short essay on your boss.

2.3 Participants and procedure

There were 12 participants consisting of second-year, third-year, and senior students of Kobe University, with a major in global culture who used the system. Empirically, we consider that the reading materials are easy to read for them.

The students were required to log in to the system, and then answer the questions at each step of the system. In the two reading-to-write tasks, no dictionary was allowed. To avoid losing participants' attention, the essays were limited to 5 sentences or 70 words.

3 Analysis and Results

We collected 35 sentences and 34 sentences in the two tasks, respectively. Here, simple sentences, complex sentences, and complicated sentences are included.

First, we summarized students' responses at the step of measuring levels of word recognition and confirmed that most of students are familiar to the words at the Level3 of JACET8000. This means that the students had sufficient reading proficiency and writing proficiency to comprehend the essays and complete the writing tasks with little grammatical errors.

3.1 Students' word reading and writing

Because a predicate is the basic part of a sentence and one cannot omit predicates in writing, we primarily focused the analysis on predicates. We used Stanford Parser to parse the essays and students' writings and extracted all predicates in the essays [17]. The percentages of the predicates that appear in students' writings are calculated. Figure 1 and Figure 2 show the percentages related to Reading_A and Reading_B respectively. In each figure, the predicates used in each reading material are given along the horizontal axis. The vertical axis represents the ratio of a predicate frequency to the number of predicates in students' writings.

We noted that the students prefer to use their own words instead of reusing the words they read in reading. Figure 1 shows that there are only about 40% of the predicates (i.e.,

9 verbs) in Reading_A that appear in the students' writings. In additions, the predicates are not directly related to the topic. The predicates related directly to the topic almost have not been used in writings. In Figure 2, only about 20% of the predicates (i.e., 5 verbs) in Reading_B appear in the students' writings. The reused percentages are lower. The words “be”, “is”, “think”, “likes” and “make” totally do not reflect the meanings of the essay. Moreover, in both figures, the values of the percentages of the reused word is low. It seems that word reading does not influence word writing by use of the reading-to-write task system. This suggests that systems with special Focus on form approaches to force students' attention on the words is necessary.

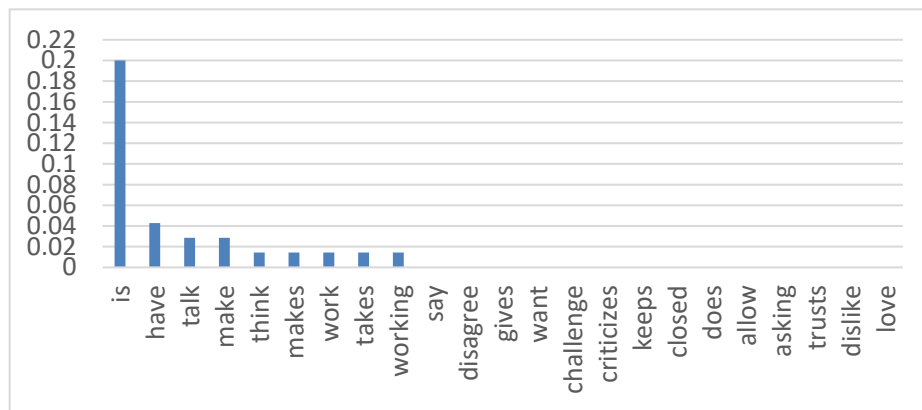


Fig. 1. The word percentages that reused by the students in the first task

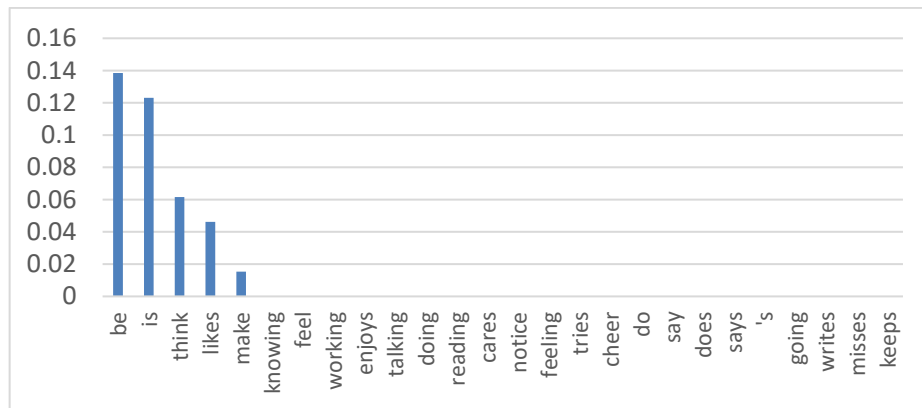


Fig. 2. The word percentages that reused by the students in the second task

3.2 Results of the recognition test

In Figure 3, we give the correct percentages in the last step that measure if the students could correctly memorize in which essay the words appeared. The red bar means that the word “misses” was colored red. The green bars correspond to the words colored

green. The black bar represents that the word “keeps” was displayed in bold-faced type. The other words were not emphasized visually.

Figure 3 shows that the approach of word coloring did not help students a lot to recognize words. In comparison with uncolored words, the correct percentages of all colored words are under 50%. Conversely, the uncolored words, “encourages”, “notice”, “challenge” and “trusts”, were recognized correctly by over 50% students. It is noticed that the uncolored words are strongly related to the meanings of the reading materials. In other words, the students paid more attention to the meanings rather than the linguistic form even the coloring approach was used.

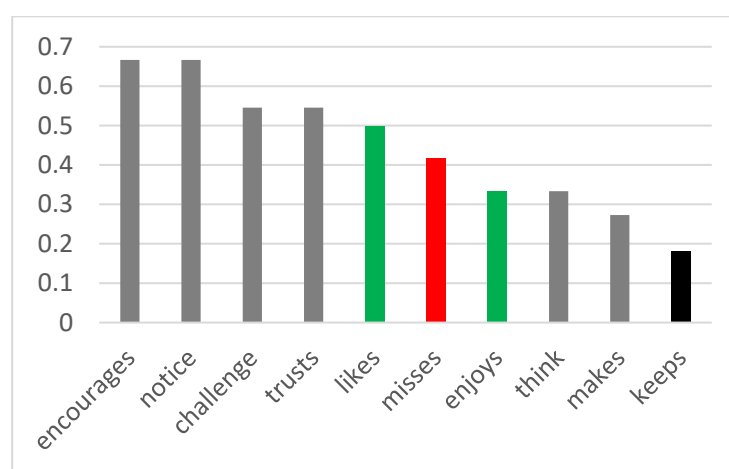


Fig. 3. The correct percentages of the words in the recognition test

Consequently, as the literature [13] mentioned that low-proficiency students were significantly influenced by the salient syntactic structures, in this paper, the writing proficiency may result in the students paid little attention to the linguistic form. The reading-to-write tasks were considerably easy for the students. It is assumed that other approaches are necessary for high-proficiency students.

4 Conclusion

In this paper, we analyzed learners’ word reading and writing in an English reading-to-write task system. We focused the words on the verbs. Two essays were used in reading and writing tasks related to the topics of the essays were requested. By use of Stanford Parser, the predicates in the essays were extracted and reused percentages in learners’ writings were calculated. Furthermore, the effectiveness of word coloring as a Focus on form approach was examined. It seems that word reading does not influence word writing in the reading-to-write task system. Learners tend to pay more attention to the meaning of a word rather than linguistic form in systems without special Focus on form approaches. In addition, the approach of word coloring did not help students a lot to

recognize words. Further Focus on form approaches for word reading and writing in web-based learning environments should be developed.

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References

1. Kroll, B.: Second language writing. Cambridge University Press, Cambridge (1990).
2. Kimura, H., Kimura, T., Shiki, O.: Theory and practice in reading and writing: nurturing independent learning. TAISHUKAN Publishing Co., Ltd., Tokyo (2010) (in Japanese).
3. Ackerman, J., M.: Reading, writing, and knowing: the role of disciplinary knowledge in comprehension and composing. *Research in the Teaching of English* 25(2), 133-178 (1991).
4. Truscott, J.: The case against grammar correction in L2 writing classes. *Language learning* 46(2), 327-369 (1996).
5. Chandler, J.: The efficacy of various kinds of error feedback for improvement in the accuracy and fluency of L2 student writing. *Journal of Second Language Writing* 12(3), 267-296 (2003).
6. Leacock, C., Chodorow, M., Gamon, M., Tetreault, J.: Automated grammatical error detection for language learners. 2nd Ed. Morgan & Claypool Publisher (2014).
7. Kawamura, K., Kashiwagi, H., Kang, M.: An approach toward automatic error detection in learners' English writing based on the source language. In: 10th International Proceedings on Mobile, Hybrid, and On-line Learning, pp. 62-65. IARIA, Roma (2018).
8. Ito, F.: L2 reading-writing correlation in Japanese EFL high school students. *The Language Teacher* 35(5), 23-29 (2011).
9. Asencion Delaney, Y.: Investigating the reading-to-write construct. *Journal of English for Academic Purposes* 7, 140-150 (2008).
10. Weigle, S. C., Parker, K.: Source text borrowing in an integrated reading/writing assessment. *Journal of Second Language Writing* 21, 118-133(2012).
11. Liu, H., Brantmeier, C., Strube, M.: EFL test preparation in China: The multidimensionality of the reading-writing relationship. *Reading in a Foreign Language* 31, 44-61(2019).
12. Kim, Y. G., Petscher, Y., Wanzek, J., Al Otaiba, S.: Relations between Reading and Writing: A Longitudinal Examination from Grades 3 to 6. *Reading and Writing* 31, 1591-1618(2018).
13. Park, Y., Warschauer, M.: Syntactic enhancement and second language literacy: an experimental study. *Language Learning & Technology* 20(3), 180-199 (2016).
14. Kang, M., Kawamura, K., Shao, S., Kashiwagi, H., Ohtsuki, K.: Measuring Similarity to Observe Learners' Syntactic Awareness in Web-Based Writing Environments. In: *Advances in Web-Based Learning – ICWL 2019*, pp. 100-107, Springer (2019).
15. JACET Vocabulary(n.d.): Retrieved from <http://j-varg.sakura.ne.jp/publications/index.html>
16. Kuhbandner, C., Pekrun, R.: Joint Effects of Emotion and Color on Memory. *Emotion* 13(2), 375-379 (2013).
17. Klein, D., Manning, C. D.: Accurate Unlexicalized Parsing. *Proceedings of the 41st Meeting of the Association for Computational Linguistics*, pp. 423-430 (2003).