

Eliciting Emotional Thought During Critical Reading for Academic Writing

Satoshi V. SUZUKI ^{a,1}, Aiko SHIRAISHI ^b and Hiroaki SUZUKI ^{a,c}

^a*Human Innovation Research Center, Aoyama Gakuin University, Japan*

^b*Graduate School of Literature, Aoyama Gakuin University, Japan*

^c*Department of Education, Aoyama Gakuin University, Japan*

Abstract. One of the crucial cognitive processes in academic writing is that of problem-finding in the critical reading stage before planning an essay. With the focus of our study being on the process of critical reading—a writer’s in-depth reading of an article in order to find issues that are capable of being addressed from her/his viewpoint—we are currently on the way to developing an affective critical reading tool. Further, we had originally predicted that affective clues during the reading of an article would prompt a learner who is writing an essay to engage more effectively in the critical analysis of issues contained in the article. Subsequently, we conducted an experiment to examine this hypothesis, and the results corroborated our assumption of the advantage of using affective clues.

Keywords. Academic writing, critical reading, affective tagging, annotation

1. Introduction

Essay writing is one of the important academic activities for students. Among the various academic skills that come into play in the writing of an essay, we focused on the role of critical reading to find the issues that a subsequent essay would address. Certain textbooks on writing have pointed out that affective thought should assist in problem-finding before writing an essay (for example, Weinberg [3]). In this study, we concentrated on the role of affective thought in critical reading. Unlike the approach of previous studies that investigated logical path of thought in the process of problem-finding by reading texts (for example, Tsubakimoto et al. [2]), we enabled learners to leave tags and annotations in an affective manner on the EMU (Emotional and Motivational Underliner) system. When a user leaves an annotation for an arbitrary string of the articles registered on the EMU system, (s)he must add an affective tag to the string from a tag set provided by the system. The tag set consists of the five tags shown in Figure 2. The tag set contains casual expressions in order to induce the user to respond to the article in an emotional manner. The user can optionally add a comment to the underlined string.

¹Corresponding Author: Human Innovation Research Center, Aoyama Gakuin University, #151301 Goucher, 4-4-25 Shibuya Shibuya-ku Tokyo 150-8366 Japan; E-mail: ssv@hirc.aoyama.ac.jp.

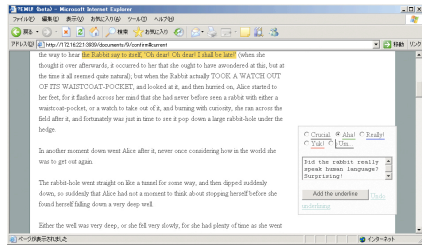


Figure 1. Confirming the string to annotate on the EMU

2. Method

We conducted an experiment to examine the influence of affective tags on the critical reading of learners. Fifty-four Japanese undergraduate students were randomly assigned to one of the following conditions. The participants in the *one-colour group* (1C; $n = 18$) were told to underline and leave comments on an article without tagging them. The participants in the *five-colour (rational) group* (5CR; $n = 18$) were instructed to underline and leave comments on an article using another tag set (*Important, I agree, I did not know, I disagree, and I cannot Understand*) so that their meanings were equivalent to the tag set in Figure 2 and, also, to induce the user to rationally analyse an article. The participants in the *five-colour (affective) group* (5CA; $n = 18$) were told to underline and leave comments on an article using the tag set in Figure 2. These participants read an article that was written in support of the increase in the gap between the rich and the poor [1]; there were, however, some flaws in the argument that supported the increase in such a gap. Next, the participants had to add underlines and comments to the article. Then, after performing these tasks, each wrote an essay about the article. The procedure was the same of all groups; the only exception lay in the definitions of the tag sets. We adopted the following measures to quantify the results of the experiment: *the number of underlines, the length of comments, and the evaluation scores of the essays*. The essays were evaluated using a 5-point scale (from 1: poor to 5: excellent) by two judges, and the averaged scores were used as the evaluation score.

3. Results

Table 1 indicates the number of underlines with or without comments. This result shows that participants in the 1C group added more underlines to the article without comments than those in the other groups. The chi-square test indicated there were significant differences among the cells ($\chi^2(2) = 22.60, p < .001$). The participants in the 5CR group and the 5CA group added more underlines with comments than those without.

Figure 3 shows the mean and SD of data on annotations in the 5CR and 5CA groups categorised by tags. We examined the difference in the tendency of tag use between the 5CR group and the 5CA group by a two-way ANOVA (a split-plot design: the independent variables were groups as the between-participant variable and tags as the within-participant variable) for the number of underlines. The interaction between the groups and tags ($F(4, 136) = 4.46, p < .01$) was significant and a simple main effect analysis for each tag showed significant simple main effects for the following: *Important/Crucial* ($p < .01$); *I agree/Really!* ($p < .001$); and, *I cannot understand/Um...* ($p < .05$).

Crucial. Add this when you want to say “This part is crucial” (black).

Really! Add this when you want to say “Really, that’s right,” or “Good!” (blue).

Aha! Add this when you want to say “I haven’t realised this,” or “It’s great!” (green).

Yuk! Add this when you want to say “Hey, that’s wrong,” or “It’s awful!” (red).

Um... Add this when you want to say “You bet?” or “I don’t get it” (black with “?”).

Figure 2. Affective tags on the EMU

Table 1. Number of underlines with or without comments

	Without comments	With comments
1C group	128 (60%)	85 (40%)
5CR group	95 (40%)	140 (60%)
5CA group	81 (40%)	121 (60%)

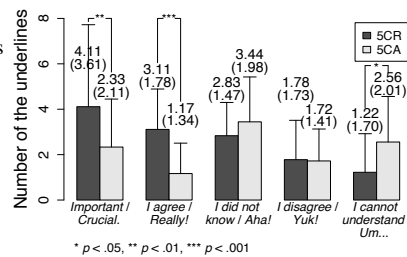


Figure 3. Mean (SD in parentheses) of data on annotations on the article categorised by tags

The participants in the 5CA group obtained the highest essay scores ($M = 3.97$, $SD = 0.96$), followed by the participants in the 1C group ($M = 3.33$, $SD = 1.25$). The participants in the 5CR group obtained the lowest scores ($M = 2.58$, $SD = 1.43$). A one-way ANOVA indicated that the main effect of the group was significant ($F(2, 51) = 5.77$, $p < .01$), and multiple comparisons using Holm’s method indicated that there was a significant difference in the essay scores between the 5CA and 5CR groups ($p < .01$).

4. Discussion

The percentage of underlines without comments by the participants in the 1C group was higher than that by the participants in the other groups. These results imply that the tag sets in the 5CR and 5CA groups acted as a scaffold for generating comments. Thus, the tag sets could provide the participants with clues to generate comments on each underline. Moreover, the difference between a rational tag set and an affective tag set were clearly visible during the process of adding comments and while writing the essay. While the participants in the 5CR group added to the underlines with the *Important* and *I agree* tags, those in the 5CA group added them with the *Um...* tag. Further, differences between the usage of a rational tag set and an affective tag set were observed during the evaluation of the essays. Therefore, affective tagging can be assumed to better elicit learners’ responses during the problem-finding stage in the process of critical reading and essay writing. However, we did not refer to the detailed content of the comments on each underline, or to every essay. A detailed, content-based analysis of the comments and essays should be conducted to determine the nuances of the process of critical reading.

References

- [1] P. Harlan. Yume wo owanakya mottainai. Nippon niwa erakunaru chansu ga arundakara (It’s a shame not to chase a dream, because there’s a chance to succeed in Japan). In Bungeishunju, editor, *Nippon no ronten 2008 (Issues in Japan 2008)*. Bungeishunju, Tokyo, Japan, 2008. in Japanese.
- [2] M. Tsubakimoto et al. The impact of making a concept map for constructive reading with the critical reading support software “eJournalPlus”. In *Proceeding of E-Learn 2008*, pp. 506–514, Las Vegas, NV, USA, 2008.
- [3] G.M. Weinberg. *Weinberg on Writing: The Fieldstone Method*. Dorset House Publishing, New York, NY, USA, 2006.