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Colloquium

Use of peer feedback to enhance elementary students' writing through blogging

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Introduction

The learning process can be transformed from in-class teaching into learning outside the classroom due to the emergence of new networking tools. In this study, peer feedback was used to enhance elementary students' writing through employing a brand new networking environment: the blog Web 2.0 (O'Reilly, 2005). Without teachers' guidance on the out-of-class writing, students were brought to the blog environment in which they posted their articles, made corrections or gave suggestions and shared their work with others. Thus, students could have greater inspiration to write and gain more practice in writing.

Richardson (2006) also pointed out some advantages of using blogs in education, such as how blogs can erase the limitation of classroom walls and offers students more possibilities to connect with others outside of the classroom. Teachers and students can manage and reflect upon their learning outcomes through the archived data on the blogs (Chuang, 2008; Liu & Chang, 2010). Blogs encourage students to be more actively engaged in knowledge creation, sharing their ideas and viewpoints in writing with others and publishing their works (Krishnamurthy, 2002; Richardson, 2006). According to Flower and Hayes (1981), the act of writing involves three major elements. These include: the writer's long-term memory, task environment and the actual writing process. These written documents on the blogs have a vast audience in the blogosphere because they can be easily shared with others on the Internet. Such learning experiences vastly differ from those in the past.

From the literature review, many studies show the possible relationship between blogging and writing (Liu & Chang, 2010) and peer feedback and performance (Liu & Lin, 2007). However, there are insufficient studies investigating the effectiveness of using peer feedback to improve elementary students' writing through blogging; this study aimed to remedy that issue.

Method

This research adopted a single-group with pre- and post-tests design to investigate the effectiveness of using peer feedback to enhance elementary students' writing through blogging. The experiment was conducted for 2 hours per week over a period of 15 weeks. An online platform of blogging, named 'uSchool', was provided to the participants for posting their written works. A series of quantitative and qualitative techniques were employed to analyse the data, including interrater reliability, content analysis, *t*-test, analysis of covariance, observations and interviews.

Participants

A total of 33 fifth graders were selected as participants in the study. The students were assumed to possess Internet skills and the ability to input Chinese characters, as well as to write a descriptive essay, edit articles and share their thoughts on writing, with their peers.

Research design

Each of the 33 subjects was required to compose one article each for the pretest and posttest. All of the articles were evaluated by the same three experts. Meanwhile, students were encouraged to provide feedback on the most interesting articles, as well as to edit them based on peer feedback. In addition, frequencies of peer feedback on the articles were categorised into low, medium and high frequency groups for analysis. Furthermore, all of the subjects' interactions and performances were observed and recorded for analysis. Finally, six students were randomly selected from the three groups and interviewed in order to understand their experiences with peer feedback and editing blog postings.

Research procedure

The first week of the experiment was devoted to preparation. The students had to register, create an account and familiarise themselves with the blog environment. From weeks 2 to 5, all 33 subjects were requested to write some short paragraphs together. During weeks 6 to 9, the students were asked to compose short essays based on their previous assignments. From weeks 10 to 14, the students were asked to compose their first article (ie, pretest) on the blog and to review those of other students. In week 15, the students were asked to write the second article (ie, posttest). Finally, the student interviews and observations were conducted and analysed.

Results

Interrater reliability

An expert consensus evaluation was adopted to evaluate the students' writing performances. Three experienced elementary teachers were invited to be the raters. Kendall's coefficient of concordance was administered to ensure interrater reliability. Table 1 shows the results of Kendall's W consistent test on the pre-and post-tests.

The statistical results show that there is significance ($p < 0.05$) on both the pre-and post-tests, indicating that the three experts' ratings were consistent and reliable.

The t-test of peer feedback on the blog from the pre- and post-tests

Table 2 shows the *t*-test results on peer feedback on the blog from the pretest and posttests. The statistical results reached a significant level ($t = 2.07$, $p < 0.05$), indicating that the posttest performance was higher than that of the pretest. As a result, the use of peer feedback through the blogging model is effective for improving the quality of writing.

Content analysis of peer feedbacks

The content of peer feedback on the blog was divided into two groups. The elaborated and basic feedback groups were based on whether or not the content of the feedback had positive effects

Table 1: Results of Kendall's W consistent test on the pre- and post-tests

Item	*Pretest*	*Posttest*
Number	3	3
Kendall's W test[a]	0.614	0.734
Chi-Square test	55.278	66.081
Degree of freedom	30	30
Asymptotic significance (*p*)	0.003	0.000

[a]the Kendall's coefficient of concordance.

Table 2: Results of peer feedback on the blog from the pre- and post-tests

Group	*Subjects*	*Average*	*Standard deviation*	*T value*
Pretest	33	74.10	9.21	−2.07*
Posttest		76.78	6.11	

*$p < 0.05$.

Table 3: Statistical results of frequencies of the elaborated and basic feedback

	Elaborated feedback		*Basic feedback*		
	Count	*Percentage*	*Count*	*Percentage*	*Total count*
Feedback frequency	169	47%	193	53%	362

Table 4: Distribution of the types of elaborated feedbacks

Type	*Count*	*Percentage (%)*
Writing contents	114	54
Article organisation	46	22
Wording	31	15
Spelling, format and punctuation	19	9

upon the writer's work (Liu & Lin, 2007). Elaborated feedback refers to those responses that provide useful suggestions on article organisation, wording, content, spelling, format and punctuation. On the other hand, basic feedback only led to thumbs-up or thumbs-down comments on the articles. Table 3 shows the statistical results of frequencies of the elaborated and basic feedbacks. There were 169 elaborated (47%) and 193 basic feedbacks (53%), indicating that after accepting the feedback on their writings, students were able to deliver appropriate responses.

Table 4 shows the distributions of the types of elaborated feedbacks. Of the 169 elaborated feedbacks, 114 (54%) commented on writing content, giving suggestions on writing style, topics and substance; 46 (22%) commented on article organisation, such as giving suggestions on how to write paragraphs and conclusions; 31 (15%) commented on wording, such as suggesting how to use rhetorical devices to improve sentence flow; and 19 (9%) commented on spelling, format and punctuation.

Interview with students

The researchers interviewed six students who were randomly selected from the 33 subjects. The summarised results are as follows: (1) students' writing responses through blogging constituted an enjoyable and different experience: students were able to learn how to appreciate others' articles, give feedback and understand the editing process; (2) correcting or rewriting paragraphs on the blog was considered more convenient than on sheets of paper; (3) with word processing software, typing on the blog was found to be much faster, time-saving and more productive than writing by hand; (4) students could easily look up information via the search engine; (5) some students mentioned that they enjoyed reading articles but did not like giving suggestions because they had no idea what to say or might give the author wrong ideas or suggestions; (6) all interviewed students agreed that peer feedback improved their writing; and (7) students could write and offer feedback freely thanks to the anonymity of the process.

Conclusion

This study investigated the effectiveness of using peer feedback to improve elementary students' writing through blogging. The results are as follows: (1) the use of peer feedback through a blogging model is an effective way to improve the quality of elementary students' writing; (2) advantages of writing on the blog include ease of editing, quick input and convenience of looking up information on the Internet; (3) most of the students agreed that providing feedback through blogging is beneficial for editing articles and improving their writing; (4) the blog's anonymity allows the students to write without restraint; and (5) students are able to write rich and meaningful content rather than just telling trivial details or delivering a superficial piece of writing; hence the number of inferior writings was reduced and the flow of the articles improved.

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