HOW EFL UNIVERSITY STUDENTS USE ELECTRONIC PEER RESPONSE INTO REVISIONS[†]

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Abstract

Although a considerable number of studies on L2 students' compositions have shown that peer response has a profound and positive effect on the students' revision, few investigations have examined the results of electronic peer response in comparison with face-to-face peer response. The present study aimed to examine types of comments Chinese EFL university students made, how they used the comments in revising their writing, and the writing quality after revision. Comments made and actually used by the two groups were categorized and counted, and the students' essays were rated by five trained raters. The findings revealed that the students' focus on providing comments was different in both groups. The face-to-face peer response group produced more comments, thus resulting in a larger number of comments incorporated into revisions. However, the electronic peer response group produced more revision-oriented comments. In terms of writing quality, they significantly outperformed the face-to-face group.

Keywords: Electronic peer response, face-to-face peer response, revision, EFL writing

Introduction

Background

Over the past decade, technology has been implemented in the writing classrooms in different ways. Warschauer and Ware (2006) note "the rapid pace at which educational technologies are growing creates a broad spectrum of ways in which technology can be integrated into classroom instruction" (p. 105). Under the influence of computer technology in L2 writing, some researchers claim that the technological developments can motivate the students and make the writing classroom more creative, autonomous and collaborative (Chun, 1994; Kern, 1995; Warschauer, 1996; Warschauer and Kern, 2000).

The multiplying points of contact between technology and second language writing converge on the concept of electronic feedback. With the implementation of computer technology into writing classroom, peer response has shifted from a traditional face-to-face environment to a

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networking computer mediated environment called electronic (computer-mediated communication) peer response, or e-peer response, in which the students are able to exchange their own ideas and respond to each other through computers online in the asynchronous or synchronous form. By allowing the students to access quickly the writing environment, the use of networked computers extends the possibility of free communication, autonomous interaction and collaborative ideas shared in small group discussion.

With regard to these characteristics, those researchers stressing social nature of writing also lay more importance on the use of electronic peer response (Kern, 1995; Warschauer, 1996; Warschauer and Kern, 2000; Hyland, 2006; Ware and Warschauer, 2006). According to previous studies, electronic peer feedback, hypothetically should, have further advantages over traditional face-to-face peer feedback, thus enabling the students in the networked environment to write better essays. In contrast to the latter, e-peer feedback reduces the influence of teacher authority in traditional peer response and develops the students' autonomous learning (Kern, 1995), provides spaces for students to practice their writing skills in a non-threatening environment (Colomb and Stimutis, 1996), enhances opportunities and motivation for authentic interaction and meaningful negotiation (Warschauer, 1996), offers a stronger sense of the audience of peers beyond the instructor, which is better for helping foster awareness of audience (Ware and Warchauer, 2006), and improves linguistic proficiency and increases self-confidence (Ortega, 1997; Yuan, 2003). To quote Beauvois' (1997) study, in such a non-threatening environment, when commenting on others' work online, the students become more 'verbal' and honest to respond, which makes the papers more readily available for sharing and revising. As indicated in DiGiovanni and Nagaswami's (2001) research, the students' writing content is better focused than that in traditional classroom discussion when receiving feedback during electronic interaction.

Despite the aforementioned advantages,

the findings of previous studies examining effects of e-peer feedback on students' writing quality in comparison with face-to-face peer feedback have also been mixed. Sullivan and Pratt (1996) compared the students' performance in peer response in the two modes of communication-face-to-face and computer-assisted classroom and found that the types of comments that the peers provided in the two writing environments were clearly different. During peer response group sessions, the comments made in the computer-assisted classroom were better focused, while the comments were more numerous in the face-to-face classroom. Students' writing quality did improve in the computer-assisted classroom. Different from Sullivan and Pratt's study, Ghaleb (1993) found that both electronic and traditional environments had no significant effects on the students' writing quality. Ghaleb's finding was further supported by Braine (1997, 2001). In his comparative studies of traditional writing and local-area-network (LAN)-based writing, he offered a critical view on e-peer response, concluding that the traditional setting promoted more improvement in writing quality and that the comments generated from LAN were less structured and less organized, leading to e-peer feedback being less effective than it could be. This, according to the research, could have resulted from the fact that "the students did not make best use of the comments into the revisions" (p. 288), as Braine (2001) pointed out. Then how do students use electronic peer response into the revisions? To date, few researchers have answered this question by comparing two modes of peer response in L2 writing (Huang, 1999; Schultz, 2000; Liu and Sadler, 2003).

Literature Review

Huang (1999) investigated the extent to which students used ideas provided by their peers and the quality of the peers' comments. He asked 17 ESL students to mark the comments they might incorporate into their final drafts on the transcripts of 2 computer-mediated peer response interactions and found that the students

did not use peers' ideas often, although the quality of the comments provided was good: almost half of the ideas used were concerned with macro-level composition issues or content, and about one fourth were related to paragraph level issues. The study, however, only examined the readers' comments through the interaction transcripts, and the writers' views on the readers' comments through the interviews. The researcher did not examine how these comments were really used in the students' actual revisions. Schultz (2000) examined the revisions that intermediate and upper-intermediate French students made across their writing in traditional and computer-mediated peer feedback settings. The results indicated that face-to-face interaction produced quantitatively and qualitatively more changes in content among the less advanced students. Face-to-face peer response focused on content, whereas computer-mediated peer response focused on content and organization. The results also showed that the students made more specific, local changes (e.g., correcting the spelling errors, using more precise words, and enhancing the coherence of the sentences) in computer-mediated mode because they were able to follow the detailed suggestions made and saved in CMC mode, while the students in the traditional mode made more global changes (e.g., adding the new ideas and rearranging the paragraph).

Liu and Sadler (2003) investigated whether different modes of commenting and interaction (electronic versus face-to-face) resulted in differences in the types and the nature (revision-oriented versus non-revision-oriented) of the comments produced by the students in L2 writing and what impact the observed differences had on these students' revisions. The findings revealed that the overall number of the comments made by the e-peer response group was larger and the percentage of revision-oriented comments was larger for this group as well, thus resulting in a larger number of revisions overall. However, the researchers also found that the majority of the interaction of the CMC group was not focused on their peers' papers but on some irrelevant issues in this environment, which resulted in the comments generated in the CMC mode being less effective for revision.

In brief, one primary unsolved question still remains despite the researchers' efforts to examine the impact of e-peer response on revisions, that is, "How do the students use e-peer response into their revisions?" Huang (1999) did not examine how these comments were really used in the students' actual revisions. Liu and Sadler (2003) only investigate the types, the areas, and the nature of comments incorporated into revisions, not further analyzing the roles the used comments played. Although Schultz (2000) touched upon this issue, he did not provide more detailed information on how e-peer response impacted the students' revisions in terms of content, organization, and language use. These gaps suggested that more exploration needs to be conducted in this area.

Purposes

Taking the research gaps into consider-ations, the present study aimed to investigate how EFL university students used e-peer response for revisions. The goal was to have a clear understanding of the differences between 2 modes of peer response in terms of types of comments provided, functions of comments served, actual use of comments in revisions, and writing quality. Therefore, the following research questions were addressed:

(1) How many and what types of peer comments on the students' written work are provided by the electronic peer response group in comparison with the face-to-face peer response group?

(2) How do the two modes of peer response groups make use of the comments in revisions?

(3) Does the electronic peer response group write better than the face-to-face peer response group?

Method

Participants

The present study was conducted in a third-year composition class, English Writing III

(Advanced English Writing), at a state university in the southwest of China. Twenty 3rd year English majors, 16 females and 4 males, aged 19-21, with at least 8 years of English learning, participated in this study. Their English language proficiency ranged from 60 to 77 based on the results of the National Test for English Majors 4 (TEM4), a comprehensive test held a month before the end of the second semester in their second year, that is, while they were finishing English Writing II. The students were randomly assigned to the face-to-face peer response (FPR) group and the electronic peer response (EPR) group, with 10 in each, working in small groups of 5. There was no significant difference in TEM 4 between EPR and FPR groups ($p = 0.612$).

Pedagogical Context

The students were required to finish 4 major writing assignments during the whole semester of English Writing III. These assignments were argumentative, narrative, descriptive, and expository writing, respectively. In order to avoid the effects of variables from teaching style and instructional materials, the 2 groups were taught by the same teacher using the same teaching materials. The peer response activity was assigned out of class to ensure the same class duration for both groups. The only difference between the FPR and the EPR groups was that the students responded to peers' drafts in different environments.

To provide feedback, the students in the FPR group sat together in small groups of five, commented on each other's draft and revised their drafts based on their peers' oral and written comments in the traditional classroom environment. Meanwhile, the students in the EPR group posted their writing on the web page, using an asynchronous networking software, Moodle's Forum, which supported the students' collaboration and interaction highly required in the process of peer response, provided comments in the forum, and revised their drafts based on the feedback received on-line. They negotiated with one another for clearer meanings or explanations through online writing.

Procedure

Training

Berg (1999) points out that the students should be trained to be familiar with peer feedback in order to produce more effective responding. The students receiving training can offer more specific and better quality comments than those untrained. Therefore, training the students to create the quality comments and use the networking software before the study could assure that they would receive more specific suggestions for revising their essays instead of the meaningless, vague, and empty responses and comments.

A 6-hour training session of 2 phases was conducted before the peer response activity. The first phase was an in-class demonstration for peer review which lasted 4 hours, 2 hours per week. During this phase, all 20 participants were trained how to comment on their peers' papers and produce the effective suggestions. The training session was supported by Liu and Hansen's (2005) peer response guiding principles. It began with introducing the role of peer response in the writing process and explaining its concepts for giving effective feedback. Then the students were taught where they should look for, what questions they should ask, and how the comments should be generated in terms of content, organization, and language use (including grammar, vocabulary, and mechanics) while responding to the peers' drafts. After that, a series of types of comments were given to instruct the students how to provide effective feedback. Finally, the students practiced responding in small groups in order to familiarize themselves with the procedure of peer review.

The second phase lasting 2 hours was particularly set for e-peer feedback training in a computer lab outside class time. The students in the EPR group practiced posting their first draft and writing their responses with the help of guidelines on the web page. During this period, the researcher played a role as a classroom observer in helping the students if they encountered any technical problems or had difficulties in providing e-feedback on Forum.

The purpose was to help them become familiar with the features of Moodle. After that, some good samples of comments were collected and displayed on the computer for clear analysis and instruction.

Writing Task

Following the training sessions, the actual writing task for this study was conducted in two modes of groups in the 6th week of the semester, at the time when the students started to write the first assignment of English Writing III, the argumentative writing. The writing task was composed of producing an argumentative essay with about 400 words based on a given topic, peer response sessions and the subsequent revisions. The topic was selected from previous national examinations particularly testing the advanced Chinese English majors. A modified Tusi and Ng's writing cycle (2000) was used in designing the writing task (Figure 1).

There were 3 drafts required from each student. In the FPR group, each student was asked to finish writing the first draft at home and bring it to the classroom for peer response. After they completed commenting on their peers' drafts, they were given 1 week to revise based on the oral and written feedback they had received. The following week, the students brought the revisions to the classroom for the second peer response and then revised as the final drafts within the following week.

In contrast to the FPR group, the students in the EPR group posted their first drafts on Moodle's Forum. All of them received electronic written comments from their peers on-line and used those comments to write their second drafts. After posting the revisions on their group space on Forum, the students again commented on the peers' work, negotiated with the other group members, and completed their third drafts.

Data Collection

The students' first, second and final drafts written on the same topic "Turn Off Your Mobile Phone" were collected. The total number of essays was 60 - 30 from the FPR group and 30 from the EPR group. In addition, the peer comments from both groups, that is, the transcripts of the students' oral discussion and written comments from the FPR group and the written comments given online from the EPR group, were collected. Furthermore, all 20
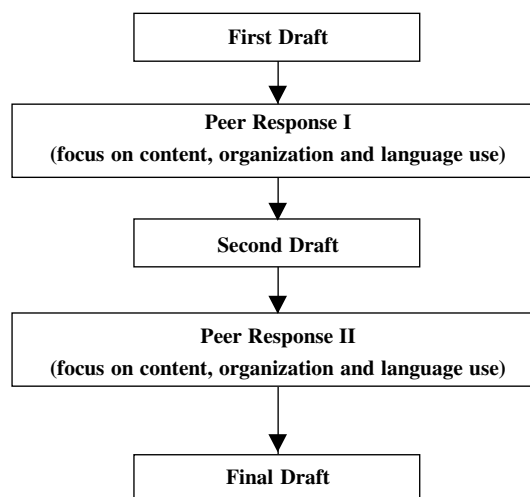

Figure 1. Students' Writing Cycle

participants were interviewed throughout the semester to get more information about the actual changes they made in revisions and the reasons for the changes. This aimed to further examine how they used their peer response in their revisions.

Data Analysis

The product-based analysis was employed in this study, comprising of essay rating, peer comments analysis, and revision analysis.

Five experienced teachers were invited as raters in the study. They were trained how to grade the students' essays in order to ensure there were no significant scoring differences among them and to ensure the inter-rater reliability. The students' drafts were graded independently and analytically in terms of content, organization, and language use (including grammar, vocabulary, and mechanics). Rating was made on a 100-point scale according to the modified Jacobs *et al.*'s (1981) scale (cited in Weigle, 2002), 40 points for content, 30 points for organization, and 30 points for language use. Language use was composed of 15 points for grammar, 10 points for vocabulary, and 5 points for mechanics. The scores of each element were then processed through SPSS, and a mean was obtained as the final scores.

The comments generated from both FPR and the EPR groups were categorized based on the modified DiGiovanni and Nagaswami's response analysis rubric (2001) shown in Table 1. Those actually used in revisions were then counted and compared.

Results

Number of Comments Produced

To answer the first research question

Table 1.   **The modified response analysis rubric**

Types	Purposes
Praise	Reviewers praise the good points of words, content, organization of the essays.
Criticism	Reviewers criticize the defects of words, content, organization of the essays.
Explanation	Reviewers explain why they think a given term, idea, or organization is unclear or problematic.
Suggestion	Reviewers suggest the ways to change the words, content, and organization of the essays.
Evaluation	Reviewers evaluate the content, organization, language use and vocabulary in global or local area.
Question	Reviewers ask the writers if they do not understand a given term, ideas, words, or organization.
Clarification	Reviewers try to get further explanations of what the writers have said or what is not clear to them in the essays.
Restaement	Reviewers state (summarize or rephrase) what has been written or said to show understanding.

regarding the numbers and the types of comments that the students gave in both groups, the data concerning this aspect were initially generated and analyzed. Table 2 shows a general picture of the comparison of the peer comments provided by the FPR and the EPR groups. Clearly, the students produced more face-to-face comments (n = 507) than electronic comments (n = 356). In the FPR group, the students would like to praise others' work (28.4%), followed by questioning where they did not understand (17.6%) and providing their own suggestions (13.0%). Only a few students criticized their peers' essays, giving the negative comments (4.1%). Comparing with those in the FPR group, although the students in the EPR group still provided the highest percentage of the type of praise, it had reduced to 18.8%. The students in this group contributed a rather balance to the types of praise (18.8%), question (18.0%), suggestion (15.4%), criticism (14.9%), and evaluation (13.5%), respectively. The type of restatement was paid the lest attention (4.5%).

Functions of Comments Served

To investigate whether the comments produced by the FPR group focused more on different levels of a text than those in the EPR group, all of the comments were examined to see what functions they served. The results indicated that the students in the FPR group shed important light on the levels of vocabulary (30.8%), content (27.2%), and grammar (22.1%) of all the 507 comments (see Table 3). In contrast, 60.4% of 356 comments from the EPR group were related to the level of content. The findings suggested that the students' focus was different when responding to their peers' drafts.

Number of Comments Incorporated into Revisions

The second research question concerned how the 2 modes of peer response groups made use of comments into revisions. To answer this question, it was important to know the number of comments used by the students into revisions. As shown in Table 4, of all the 507 comments provided by the FPR group, the revision-oriented comments just accounted for 71.8% (n = 364), which led to only 57.6% of the total comments were incorporated (n = 292) into subsequent revisions. In contrast, of all the 356 comments by the EPR group, 72.2% of which were used (n = 257) because the revision-oriented

Table 2.   A comparison of provided peer comments between the FPR and the EPR groups

Types	FPR	EPR	Percentage	
			FPR	**EPR**
Praise	144	67	28.4	18.8
Criticism	21	53	4.1	14.9
Explanation	45	31	8.9	8.7
Suggestion	66	55	13.0	15.4
Evaluation	43	48	8.5	13.5
Question	89	64	17.6	18.0
Clarification	46	22	9.1	6.2
Restatement	53	16	10.4	4.5
Total	**507**	**356**	**100**	**100**

comments held 84.2% of the total provided comments (n = 300). Table 5 presents a comparison of the mean differences in the number of provided peer comments and used peer comments between the FPR and the EPR groups. It was found that although the total comments produced by the FPR group were significantly higher than those by the EPR group ($t = 3.203$, $p < .01$), there was no significant difference in the number of comments that the students actually used into revisions in the 2 groups ($t = .894$, $p > .05$).

Revision Functions

To better understand the actual use of peer comments for revisions, each comment was analyzed to see which function it served (see Table 6). In the FPR group, the most frequent function of revision was vocabulary (46.6%), followed by content (29.8%) and organization (12.3%) of all the comments. Only a few students made grammatical changes (8.2%) and mechanics

Table 3.   A comparison of functions that peer comments served between the FPR and the EPR groups

Functions	FPR	EPR	Percentage	
			FPR	EPR
Content	38	215	27.2	60.4
Organization	71	53	14.0	14.9
Grammar	112	37	22.1	10.4
Vocabulary	156	34	30.8	9.6
Mechanics	30	17	5.9	4.8
Total	**507**	**356**	**100**	**100**

Table 4.   A comparison of numbers of provided, revision-oriented and used peer comments in the FPR and the EPR groups

Groups	Provided peer comments	Revision-oriented peer comments	Used peer comments
FPR	507	364 (71.8%)	292 (57.6%)
EPR	356	300 (84.2%)	257 (72.2%)

Table 5.   A comparison of provided peer comments and used peer comments in the FPR and the EPR groups

FPR / EPR	Mean difference	Std. error difference	t	Sig. (2-tailed)
Provided peer comments	15.100	4.715	3.203	0.005**
Used peer comments	3.500	3.915	0.894	0.384

** $p < 0.01$

(3.1%) in their revisions. Compared with the FPR group, the primary change in the EPR group was in content (62.6%). Organization (11.7%) and grammar (11.3%) were the second and third concerns. It was apparent that the nature of changes made in revisions was different in the 2 modes of the peer response groups.

Comparison of the Writing Quality

The third research question addressed the issue of the students' final writing quality. Rated by 5 raters, the final drafts written by the face-to-face peer response environment had a mean score of 73.9, while those by the electronic peer response environment had a mean score of 80.3. The inter-rater reliability was 0.78. The mean difference was -6.400, which revealed the students in the EPR group wrote significantly better essays than those in the FPR group at the level of p value less than 0.05 ($t = 2.878$, $p = .010$). Table 7 shows a brief comparison.

Discussion

With regards to the earlier quantitative analysis, results were further discussed and explained according to the 3 research questions in the present study.

Differences in the Numbers and Types of Comments Produced

The results clearly demonstrated that the number of comments produced in the FPR group was significantly higher than that in the EPR group because the students in the FPR group gave a lot of positive comments and asked more questions if they felt difficulties in understanding the peers' essays in the oral discussion. This phenomenon resulted in the focus on the types of the comments was different between the 2 groups. As mentioned above, the largest difference in the types of comments was that praise and question comments contributed nearly a half of the feedback (46%), while criticism comments

Table 6. A comparison of functions changed in revisions between the FPR and the EPR groups

Functions	FPR	EPR	Percentage	
			FPR	EPR
Content	87	161	29.8	62.6
Organization	36	30	12.3	11.7
Grammar	24	29	8.2	11.3
Vocabulary	136	23	46.6	8.9
Mechanics	9	14	3.1	5.4
Total	**292**	**257**	**100**	**100**

Table 7. A comparison of the final drafts between the FPR and the EPR groups

	Mean	Mean difference	Std. error difference	t	Sig. (2-tailed)
FPR / EPR	73.9 / 80.3	-6.400	2.224	-2.878	0.010*

The negative mean and t-value refers to the scores of essays in the FPR group are lower than those in the EPR group
* $p < 0.05$

only accounted for 4.1% of the total in the FPR group. In contrast, the types of praise, question, suggestion, criticism and evaluation comments were made similarly in the EPR group.

A number of reasons could be attributed to this difference. Research had shown that anxiety had a negative effect on traditional peer response (Braine, 1997). The students felt uneasy to discuss peers' essays in classroom writing. They could not concentrate on group work and were eager to finish the discussion as soon as possible, as illustrated below in an interview of one student's perception of giving face-to-face peer feedback. As a result, the students often praised their peers' papers and only questioned the points they did not understand, without carefully commenting on the drafts.

> You know, it is really a strange feeling for me when I find many people are watching and waiting for me to evaluate my classmate's draft. I feel nervous. I just want to finish it soon.

Other reasons for this issue might be the Chinese students' cultural behaviors and learning experience (Carson and Nelson, 1996, 1998; Tang and Tithecott, 1999; Hyland, 2003; Wu, 2006). When interacting with members of their groups, Chinese students generally worked towards keeping the group harmony and mutual face-saving to maintain a state of cohesion. They were reluctant to criticize peers' drafts for fear that it will lead to possible division, not cohesion, in a group. The following was a typical example of such characteristics.

> Sometimes, I know my response is helpful to them, but it is very hard for me to disagree with others. Though I say I agree with them, in fact I really don't think so. I just keep my questions because I don't want to hurt others or to be defensive.

According to Ware and Warchauer (2006), electronic writing classes provided a less-threatening environment and enhanced more opportunities and motivation than traditional classes. The students in such an environment became more verbal and honest to respond, which made their comments more readily available for sharing and revising. In the present study, when asked whether they were influenced by the previous social behaviors and learning experience in providing e-feedback, most of the students in the EPR group felt they were not constrained too much because they did not find themselves in a face-to-face social context. The decreasing social pressure and sense of authority promoted their expression of true ideas. Furthermore, longer responding time supported them effectively to evaluate their peers' drafts in details overall.

The levels that the comments served were also different in the 2 groups. The most frequent levels occurring in the FPR group were vocabulary (30.8%), content (27.2%), and grammar (22.1%), respectively. Vocabulary and grammar were surface changes, whereas content belonged to the text-based change, which suggested that these comments focused on both form and meaning. The possible reason why the level of organization (14.0%) was not shed important lights on was that the students were taught the concepts of how to organize a better argumentative essay inside class long before. The comments made in the EPR group primarily focused on meaning because the level of content constituted 60.4% of all the comments. Except for the reason for organization comments mentioned above, a low percentage of giving grammar and vocabulary comments was probably due to the feature of Word and Moodle's Forum. When the students posted their drafts on Forum, the surface errors were auto-matically highlighted. Thus, they had more chances to do self-correction before peer review.

Revision

The number of comments provided normally determined the number of comments incorporated into revisions. As discussed earlier, the students in the FPR group gave more comments than those in the EPR group at a significant level ($p < .01$). However, there were no significant differences in the number of used comments between the 2 groups, although the comments incorporated into revisions in the FPR group were still more than those in the EPR group.

One possible answer to this result was that not all the comments produced were revision-

oriented. For example, the FPR group made 144 praise comments overall, which occupied the largest percentage of all, but only 13 comments actually resulted in revisions. Therefore, it led to the fact that a comparatively low percentage (57.6%) of peer feedback was incorporated into the students' revisions, which corresponded with the studies by Mendonca and Johnson (1994), Tang and Tithecott (1999), and Tusi and Ng (2000). In the EPR group, on the other hand, students' similar focus on each type of comments resulted in a majority of comments (84.2%) being revision-oriented and 72.2% of those led to revisions. Despite the effect of revision-oriented peer comments, another answer resting on the students' lack of language proficiency compared with native and ESL speakers led to their inability to give peers useful and accurate grammar comments, which also caused them to distrust this kind of comments received from the peers whose English level was more or less the same as theirs (Leki, 1990; Nelson and Carson, 1998; Rollinson, 2005). For this reason, even if the FPR group made the comments focusing on vocabulary (30.8%) and grammar (22.1%) beyond meaning (27.2%), only 24 grammatical comments were used in the FPR group, constituting only 8.2% of total revision changes. Overall then, the face-to-face peer response group produced a significantly larger number of comments and had a slightly larger number of comments leading to revisions. However, the electronic peer response group had a larger percentage of revision-oriented comments, thus resulting in a higher percentage of comments incorporated into revisions.

Writing Quality

On the modified Jacobs *et al.* (1981) scale, the students' final drafts were scored by the raters, and the results indicated there was a significant difference in writing quality between the 2 groups. The final essays written in the EPR group were better. As illustrated earlier, the functions of comments that led to revisions in the present study were content, organization, and language use (grammar, vocabulary and mechanics) on an analytical scale. Since the FPR group provided and used a larger number of comments, why did the EPR group perform significantly better? How did these comments result in quality essays?

An examination of the revised drafts revealed that most common function of revision in the FPR group was vocabulary revision (46.6%). The students almost first corrected all the spelling errors or changed a better word while revising. However, such surface changes could not improve the revision quality effectively, and vocabulary was also weighed a lower level based on the scale. Sometimes, paragraphs were rearranged or new information was added to emphasize the topic sentences or main ideas, and sentences were adjusted to achieve better unity and coherence because content and organization changes concerned the second (29.8%) and the third (12.3%) functions. The surprising point was that few grammatical changes (8.2%) were made in revisions even though some sentences or phrases were still incorrect, which was extremely different from the percentage of this kind of comments produced (22.1%). Therefore, although the students' drafts were improved after using the comments that the peers had given, the revisions did not lead to an excellent text.

The EPR group, on the other hand, incorporated comments into revisions differently. The primary stimulation for the students to revise their drafts was meaning-based comments. The most frequent revision occurred at the function of content (62.6%), followed by organization (11.7%) and grammar (11.3%). Vocabulary changes (8.9%) were the fewest except mechanics. In the revised drafts, topic sentences and supporting ideas were first emphasized. Paragraphs were usually rearranged and combined to serve this purpose. Once ideas became clear, the students turned to organize the sentences to achieve better format and coherence and then substituted informal and inexact phrases and words with formal and precise ones to enhance its professional look. The results showed that the students' essays were improved effectively with the help of e-peer feedback according to the raters' scoring.

This finding was also supported by the interview results obtained from the raters. They stated that some revised drafts with a more meaningful and organized change satisfied their

expectations and let them know the writers' intention more clearly than the original ones.

Some of the first drafts lack thesis statements, and some lack main ideas. But the students rewrite the topic sentences or reorganize the whole paragraphs to make it clearer in revisions. This gives me a clearer understanding on their writing.

However, the raters also agreed that some revisions did not change much of the content. As pointed out by one rater,

Some revised essays mainly substitute the words and phrases, and have little to do with idea and organization development. These surface changes do not have much impact on improving overall writing quality.

As a result, such essays did not show a significant improvement because content and organization were 2 main criteria for a quality essay.

Conclusions

The present study investigated how EFL university students used electronic peer response for revisions in comparison with face-to-face peer response. Twenty Chinese EFL third year university students involved in this study were divided into 2 groups: the face-to-face peer response group and the electronic peer response group. After a 6-hour training session, the participants completed a writing task consisting of an argumentative essay and the subsequent peer response sessions in 2 different writing environments. The findings revealed that the students' focus on providing comments was clearly different. The face-to-face peer response group produced more comments than the electronic peer response group, thus resulting in a larger number of comments incorporated into revisions. However, the electronic peer response group produced more revision-oriented comments. Due to the difference in the use of peer comments into revisions, the students in the electronic peer response group wrote significantly better essays than those in the face-to-face peer response group.

There are still some limitations existing in the design of this study. First, with a small sample size, the study was rather weak in making generalization. All the findings must be accepted as hypotheses and needed further confirmation. Second, a shortcoming of this study was its short-term duration, during which only the argumentative genre of writing was investigated. Whether the students writing on the networked environment over a longer period or writing other genres will show different results still call for further investigations. The previous studies did not draw such a conclusion (Sullivan and Pratt, 1996; Braine, 1997, 2001; Liu and Sadler, 2003). More studies on this issue are necessary.

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