Cooperative Writing Peer Feedback in Online Moodle System

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Abstract. This study investigated the effects of three cooperative peer feedback environments on the English writing performance of tertiary level nonnative English speakers and their perceptions of web-based cooperative writing. Using a counter-balance design, thirty tertiary level students were randomly assigned to use three different online writing tools: a wiki, a forum and a workshop using the Moodle system. All participants completed three cooperative writing tasks and two individual writing tasks as pre and posttests. The results revealed that participants provided different types of feedback, eliciting actual revision from their peers, which contributed to better cooperative writing. Peer feedback benefited overall writing performance as well as idea generation, organization, writing conventions, sentence fluency, word choice and voice. An analysis of questionnaires indicated that students harbor positive attitudes toward the three online cooperative writing tools.

Keywords: Cooperative writing · Peer feedback · Online moodle system

1 Introduction

This exploration of computer-assisted instruction (CAI) employed a computer-mediated communication (CMC) interface as a means of facilitating anonymous peer feedback for the writing of students of English as foreign language (EFL). According to [1], information and communication technologies offer revolutionary and thriving learning environments for students to collaboratively work with peers. These technologies may include blogs, social media, websites, wikis, forums, and workshops. The implementation of peer assessment in higher education has been promoted by researchers for years. Reference [2] indicated that reviews given by peers enhance the revision portion of the writing process. Studies on the use of social learning wikis claim that they contribute to foreign language learning [3, 4]. A wiki is an online collaborative space enabling users to create, edit and give comments, allowing for more pragmatic learning [5]. Reference [6] also revealed that wiki use allows the coexistence of both communication technology and pedagogical features, enabling deep and sustained learning for students. Reference [4] investigated the use of a forum, blog and wiki on the writing progress of EFL learners as well as their perceptions toward the instruments. The results from questionnaires, interviews and text analysis revealed a blended learning course involving in-class instruction and online writing activities indeed benefited writing performance and the learners held positive impressions of the online writing tools.

Reference [7] questioned the levels of usability and sociability associated with wikis and forums. Their results pointed to a lack of functionality in wikis, with students citing a lack of tools for editing, slow responses or problems copying and pasting. Students tended to prefer forums to the wiki. Still, the learners valued the collaborative learning process that was made available through the sharing of online documents. Reference [8] also made a comparison of wikis and forums in problem-based tasks and analyzed the differences that emerged in the discourse and actions of learners when they engaged with each platform. Their findings suggest that the use of a wiki instead of a threaded discussion board resulted in more collaborative learning. Previous empirical studies on virtual collaborative learning environments only investigated the use of either wikis or thread discussions [9, 10] or both [8]. No previous research has explored the simultaneous implementation of three online social interaction tools (a wiki, a workshop and a forum) in an EFL writing class. The present study therefore aims to probe the effects of online interaction tools on the writing performance of EFL learners, as well as their perceptions toward those instruments. Based on the aim of this research, we present the following two research questions regarding the use of wikis, forums and workshops:

1. Do these three online learning tools benefit the writing performance of EFL learners?
2. What perceptions do EFL learners have with regard to these three online learning tools?

2   Method

The study utilized a blended learning course design [4, 11], involving classroom instruction and out-of-class online writing activities. The participants were thirty freshmen taking *English Composition I* in a college in northern Taiwan. They received face-to-face instruction in class, and outside the classroom they were required to conduct online peer assessment, peer editing, or online discussion using the Moodle system, which provides open-source e-learning software known as the Course Management System (CMC), the Learning Management System (LMS), or the Virtual Learning Environment (VLE) [12]. A writing task was administered as a pretest for the counter-balance design, then participants were randomly assigned into three cooperative peer feedback environments: wikis, forums and workshops using the Moodle system. Each group of students completed three writing tasks and took turns using each of the three online social environments. Students were instructed to participate in peer editing for the wiki, peer assessment in the workshop and online discussions in the forum. All of the students were required to upload their first drafts to the Moodle system and then engage in social interaction according to assigned Moodle activities. The wiki offered space in Moodle for peer reviews and collaborative work on individual writing assignments. Moodle Workshop functioned as a platform for peer response sessions and the participants gave their comments and evaluations using rubrics and criteria provided by the system. The forum provided versatile opportunities

for group members to have online discussions. Responses to a student's initial post were displayed on a single page in the forum.

The participating students were required to revise their drafts after receiving peer comments. They then uploaded their edited draft to an online grading system called WriteToLearn. This instant grading system evaluates the writing performance of students through examining six traits of writing including ideas, organization, conventions, sentence fluency, word choice and voice. After this process, students completed a questionnaire to explore their perceptions of the three collaborative online environments and examine their reflections on the online writing process. The questionnaire included items rated on a five-point Likert scale. It also included open-ended questions. Data regarding page views, discussions and history modules were also collected from the wiki, forum and workshop systems throughout the eighteen-week process.

3   Results

3.1   Three Online Writing Tools

The present study aimed to investigate differences in writing performance that may emerge after student use of three collaborative online learning tools: a wiki, a forum and a workshop. The students wrote five compositions in total, including one pretest, one posttest and three essays. These were assessed by an online instant grading system. Table 1 shows that the participants performed much better on the final four writing tasks (M = 3.80, 3.87, 3.53 and 3.77) that were submitted after engaging in collaborative online environments. The differences among the students appeared to be smaller in the posttest (SD = 0.77) for which their lowest score was 3. Significant differences were found for the scores on all four compositions ($p < .001$) as shown in Table 2.

Table 1. Descriptive statistics of composition scores

Writing task	N.	Min.	Max.	Mean	Std. D.
Pretest	30	1	5	2.20	1.00
Essay 1	30	3	5	3.80	0.85
Essay 2	30	2	6	3.87	0.90
Essay 3	30	2	5	3.53	0.78
Posttest	30	3	5	3.77	0.77

Using a counter-balance design, the present study analyzed the differences among the writing scores of participating students after their involvement with three collaborative online environments. The students engaging in the forum (M = 3.83) performed slightly better than those using the wiki (M = 3.60) and the workshop (M = 3.77). When examining performance over the six traits, the students scored moderately higher in convention than in the other five traits as shown in Table 3. However, no significant difference was found among the three online tools (F = 0.60, p = 0.55) when it came to overall score or the six traits, as shown in Table 4.

Table 2. Comparison of writing performance (N = 30)

	Paired differences					t	df	Sig.
	Mean	Std. D	Std. error mean	95 % confidence interval of the difference				
				Lower	Upper			
Pretest -essay 1	−1.57	1.01	0.18	−1.94	−1.19	−8.53	29	0.00
Pretest -essay 2	−1.60	0.97	0.18	−1.96	−1.24	−9.09	29	0.00
Pretest -essay 3	−1.67	1.09	0.18	−2.07	−1.26	−8.35	29	0.00
Pretest -posttest	−1.33	1.03	0.18	−1.72	−0.95	−7.10	29	0.00

$P < .001$

Table 3. Descriptive statistics of writing scores after participating in the collaborative online environments.

	Wiki		Forum		Workshop		Sum	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Idea	3.40	1.0	3.63	0.96	3.54	1.10	3.54	1.02
Organization	3.33	0.80	3.53	0.94	3.49	0.89	3.49	0.88
Convention	3.73	0.91	3.80	0.85	3.81	0.88	3.81	0.87
Fluency	3.50	0.86	3.80	1.00	3.70	0.81	3.70	0.89
Choice	3.57	0.97	3.73	0.87	3.68	1.14	3.68	0.97
Voice	3.63	0.89	3.87	0.90	3.77	0.92	3.77	0.90
Overall	3.60	0.81	3.83	0.87	3.77	0.86	3.73	0.85

Table 4. Comparison of writing performance after participating in the three collaborative online environments.

		Sum of squares	df	Mean square	F	Sig.
Overall	Between groups	0.867	2	0.433	0.601	0.551
	Within groups	62.733	87	0.721		
Idea	Between groups	0.956	2	0.478	0..455	0.636
	Within groups	91.367	87	1.05		
Organization	Between groups	1.156	2	0.578	0.747	0.477
	Within groups	67.333	87	0.774		
Convention	Between groups	0.422	2	0.211	0.273	0.762
	Within groups	67.367	87	0.774		
Fluency	Between groups	1.8	2	0.9	1.133	0.327
	Within groups	69.1	87	0.794		
Choice	Between groups	0.556	2	0.278	0.291	0.748
	Within groups	83.1	87	0.955		
Voice	Between groups	0.867	2	0.433	0.529	0.591
	Within groups	71.233	87	0.819		

Table 5. Reflections on the benefits of using the three online tools (N = 30)

Statement	Percentage
I learned some practical writing skills from reviewing the writing of others	23.33 %
I was able to observe the different writing styles of others	23.33 %
My feedback contributed to the writing of others	16.67 %
It was a novel experience to give my classmates grades	16.67 %
I loved the three different online writing tools. They were very practical in various ways	13.33 %
The online writing tools were beneficial	10.00 %
We were able to exchange our ideas	10.00 %
I learned from the mistakes of others	6.67 %

3.2 Perceptions of Learners

86.7 % of the students agreed that online collaborative activities benefited their writing performance. 96.7 % of the students indicated that they revised their drafts based on the comments of their group members. In reflecting on the usage of the wiki, the forum and the workshop, some students discussed the advantages and difficulties encountered when using the online tools, also mentioning the comments they received and the interactions they had with their group members, as shown in Tables 5 and 6. The learners reported that they learned about different writing skills (23.33 %), various writing styles (23.33 %), that they learned from others' mistakes (6.67 %) and that they learned by exchanging ideas (10.00 %). However, the participants indicated that technical problems (16.67 %), unprofessional comments (13.33 %), inability to access the computer (10.00 %) and lack of feedback from others (13.33 %) distressed them.

Table 6. Reflections on the disadvantages of using three online tools (N = 30)

Statement	Percentage
I was not familiar with methods for using the tools, especially the workshop platform	16.67 %
Some of the comments or feedback were not professional	13.33 %
The workshop platform could only give grades but not comments which would have been more useful	13.33 %
Sometimes, I couldn't find a computer to access the systems	10.00 %
Some serious comments were useful but some feedback was useless	13.33 %
Some comments were too general, not very specific	10.00 %
I preferred to give comments in person in class	13.33 %
Sometimes I didn't receive feedback from others and I couldn't revise my draft	13.33 %
Sometimes I didn't know how to grade the paper	6.67 %
I was afraid to add sentences to my classmates' papers, so I only focused on grammar	6.67 %

4   Discussion and Conclusion

The present study investigated the writing performance of EFL learners and their perceptions of three asynchronous online writing tools – a forum, a workshop and a wiki. Adult language learners appear to benefit from online social interaction such as peer assessment, peer editing or online discussions. This study affirms the positive effects these collaborative online environments can have on the writing process and writing performance of students. Significant differences were found in their writing performance after participating in these online environments. The results correspond to those found in previous studies on the benefits of utilizing online collaborative learning environments [4, 6]. To further examine the differences in learners' writing performance after using wiki, forum and workshop, no significant difference among using three online tools is detected. However, the writing scores of learners who engaged in the forum slightly outperformed the scores students obtained after using the wiki or workshop. This result is in opposition to that of [8], who reported that the use of a wiki contributed more to collaborative learning than did threaded discussion boards. In sum, a blended learning course design indeed provides students opportunities to cooperate and interact with others outside of the classroom. Through the use of these tools, learning is no longer limited to class instruction only. The majority of participants held positive attitudes toward online assessments, editing or grading, and they expressed that those collaborative activities were practical and useful. Nonetheless, some of them pointed out minor problems that were distressing to them, such as the inability to access a computer, lack of familiarity with the system or unprofessional feedback from their peers. Therefore, it would seem that it is essential to equip students with the skills needed to deal with these systems, training them in grading, giving comments, and editing the writing of their peers while implementing web-based platforms.

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