THE EFFECTS OF ONLINE FEEDBACK TRAINING ON STUDENTS' TEXT REVISION

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Oftentimes, college students who learn English as a Foreign Language (EFL) provide their peers with incorrect and misleading feedback during text revision. To improve the effectiveness of peer feedback, this study examined the degree to which online feedback training impacted EFL college students' text revisions. A sample of 50 college students was grouped into the more- and less-proficient groups with 25 students in each. Results of this study reveal that the less-proficient students improved more during text revision than the more-proficient students did after the online feedback training on error correction. They were better able to detect and correct both local errors (i.e., grammatical) and global errors (i.e., text development, organization, and style) in their own and peers' texts. Their texts improved as a result of receiving immediate feedback and having the opportunity to explicitly observe how their more-proficient peers provided corrections and useful suggestions to peers and clarified writing problems for text improvement. The more-proficient students did not trust their peers' suggestions as much and made corrections mainly on local errors. These EFL college students' perceptions toward the effects of online feedback training on text revision were elaborated in this study.

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INTRODUCTION

Many college students are unable to keep up with highly demanding college courses because of their writing proficiency (Kellogg & Whiteford, 2009). Accordingly, the improvement of writing skills is important for many students as "professional and academic success in all disciplines depends, at least in part, upon writing skills" (Cho & Schunn, 2007, p. 409). For college students enrolled in English as a Foreign Language (EFL), the challenges involved with writing at the college level are much greater (Yang, in press). It has been reported that EFL college students may benefit from reading peers' texts, detecting peers' errors, and providing peers with suggestions, as writing is no longer an individual task but rather one supported by feedback from peers to improve their texts (e.g., Liou & Peng, 2009; Lundstrom & Baker, 2009; Min, 2006; Vass, Littleton, Miell, & Jones, 2008). When receiving and providing peer feedback, EFL college students learn how to support and be helped by peers with the common goal of text revision (e.g., Chandler, 2003; Tsui & Ng, 2000).

Peer Feedback and Text Revision

Peer feedback, the practice of discussing each other's written work, has been shown to be beneficial when EFL college students are learning to write and learning to revise (Berg, 1999; Min, 2005, 2006). However, peers, as opposed to teachers, are not domain experts, and peer advice or judgment may be correct, incorrect, or misleading. Peers are not regarded as "knowledge authorities," and there may be

reticence in deciding whether to accept peers' suggestions or not (Hanrahan & Isaacs, 2001; Strijbos, Narciss, & Dünnebier, 2010). The rate of accepting peers' revisions may be low as peers participate in non-revision-oriented activities such as socially chatting with other peers or expressing complimentary remarks instead of revision-oriented feedback such as constructive comments, suggestions, and clarifications (Liou & Peng, 2009). That is, not all peer feedback leads to student revisions of texts as useful feedback is uncommon (Bangert-Drowns, Kulik, Kulik, & Morgan, 1991; Chou, 1999; Kluger & DeNisi, 1996; Tsui & Ng, 2000).

Typical EFL college students are frequently unprepared to provide peer feedback during teacher-centered instruction (Leki, 1990; Min, 2003; Tsui & Ng, 2000), and few studies have examined the extent to which peer feedback affects students' text revisions (Chou, 1999; Connor & Asenavage, 1994; Nelson & Murphy, 1993; Tsui & Ng, 2000). Results from these few studies reveal a fluctuating degree of adoption of peer feedback ranging from 5% (Connor & Asenavage, 1994), to 22% (Chou, 1999), to less than 50% (Paulus, 1999; Tsui & Ng, 2000), to a little above 50% (Mendonca & Johnson, 1994; Tang & Tithecott, 1999). Furthermore, students may provide or receive invalid or incorrect feedback without feedback training, leading them to reject peer feedback no matter how many times their peers revise the texts (Sluijsmans, Brand-Gruwel, & Van Merriënboer, 2002; Topping, 1998). To improve the effectiveness of peer feedback, feedback training on error correction should be implemented to enhance the quality of text revision (Ferris, Chaney, Komura, Roberts, & McKee, 2000; Ferris & Helt, 2000).

Error correction refers to correcting or revising errors in texts, with the goal of improving writers' language knowledge (Truscott, 2004, 2007). As students engage in detecting and correcting errors in texts, their reading and writing proficiencies improve (Berg, 1999). Similar to error correction, *text revision* refers to the process of correcting or revising errors by the writers after receiving revisers' suggestions (Faigley & Witte, 1981). As such, text revision can "increase student engagement and attention to detect and correct writing problems" (Ferris, 2003, p. 52). In this study, there are two main types of text revision (Cho & Schunn, 2007; Hall, 1990): local and global revisions. Local revision refers to detecting grammatical errors in linguistics units at the word- (e.g., spelling errors), phrase- (e.g., incorrect singular or plural in phrases), clause- (e.g., misuse of words in adjective clauses), and sentence- (e.g., misuse of sentence structures) levels. Global revision refers to providing feedback on text organization, reader-based perspective, and clarity of purpose, including addition, deletion, substitution, reordering, and consolidation of content. Both local and global revisions are important for students to improve their text revision quality (Yang, 2011; Yang, Yeh, & Wong, 2010). Local revision helps students recognize different kinds of grammatical errors and enhances their grammar in use, while global revision disciplines students to detect inconsistencies of text organization or unrelated statements in a text. The result of Min's study (2005) indicates that students who have received feedback training provide more feedback for text revisions.

The use of feedback training to improve students' text revision is based on the theory of scaffolding (de Guerrero & Villamil, 2000; Vygotsky, 1978). *Scaffolding*, according to Wood, Bruner, and Ross (1976), is defined as an instructional support that helps students accomplish tasks that are beyond their skill level to complete alone. Scaffolding is also a learning process by which an expert provides temporary support to help students develop initial learning skills, gradually reducing support as students gain competence to accomplish learning tasks. The final goal is to help students construct their own knowledge without any assistance (Sun, Wang, & Chan, 2011). Rogoff (1990) further describes scaffolding as being able to help students extend their current skills and knowledge to a higher level of competence. Four stages of scaffolding have been proposed: modeling, practice, fading, and independent application (Rogoff, 1990; Yang, Yeh, & Wong, 2008). *Modeling* refers to the teacher who provides his students with demonstrations and explicit guidance. *Practice* refers to the opportunities given to students to practice each learning task. *Fading* refers to the decreasing support given by a teacher to his students as they gradually take over responsibilities and engage more fully in the learning process. *Independent application* refers to students

becoming able to independently provide peers with correct and useful feedback as they make comparisons with peers' comments to diagnose their own difficulties and adjust revision strategies.

Statement of the Problem

While previous studies have examined peer feedback and text revisions, few have focused on feedback training. First, although the benefits of peer feedback on text revision have been seen in some studies (e.g., de Guerrero & Villamil, 2000), the key to improving the quality of text revision depends upon instruction that incorporates feedback training (Stanley, 1992). Next, although some studies have indicated that feedback training will help EFL college students develop feedback skills, (de Guerrero & Villamil, 1994; Mendonca & Johnson, 1994; Villamil & de Guerrero, 1996), the explicit and strategic instruction of feedback training has seldom been provided. Third, using paper-based error correction typically relies on the teacher's instructional support. For example, Min (2005) emphasized paper-based feedback training on how students provided comments to their peers and how teacher-student conferences provided individual assistance. However, Graham and Perin (2007) suggested that students were required to receive explicit and systematic training and have ample practices of error correction for revising and editing peers' texts. Finally, the process of paper-based error correction is largely unobservable during onsite instruction. Without the process data of detecting and correcting errors on the texts, the teachers may have difficulties observing and monitoring their students' learning processes and further providing their students with appropriate scaffoldings. Similarly, EFL college students may lose opportunities to observe their peers' revising processes and reflect on their own.

Study Background

This study examined the effects of online feedback training on EFL college students' text revision. Based on the theory of scaffolding (de Guerrero & Villamil, 2000; Vygotsky, 1978; Wood, Bruner, & Ross, 1976), a computer-supported collaborative learning (CSCL) system was developed for students to help each other build writing knowledge through feedback training in error detection and correction. The features of online feedback training include: (a) the CSCL system, which provides immediate feedback of error detection and correction; (b) process data recorded in the log files, which can be used by instructors to monitor students' editing difficulties and used by students to observe and compare their text revisions with those of more proficient peers; and (c) no limitations of time and space on the practice of error detection and correction.

In this study, before receiving any online feedback training on peer feedback, the students had directly provided their peers with feedback on a first draft assignment. They had also revised their own first drafts and had written final drafts after receiving peer feedback (final draft 1). During the training on providing peer feedback, the teacher explicitly modeled for the students how to make revisions of local and global errors. Then, students were invited to practice peer error detection and correction using the CSCL system. Next, the students' responsibilities for providing their peers with correct and useful feedback to improve peers' texts was increased. Finally, the students individually applied peer feedback to revise their original first drafts and write a second final draft (final draft 2). The comparison of final drafts 1 and 2 reveals the effects of online feedback training on students' writing progress as students provide peer feedback and revise their own texts.

To examine the effects of online feedback training on EFL college students' text revisions, three research questions were posed:

1. To what degree do college students' texts improve after online feedback training?

2. What differences are there between the more- and less-proficient students' revisions?

3. What are college students' perceptions towards online feedback training concerning text revision?

METHODOLOGY

Participants

A sample of 50 students who were studying English as a Foreign Language (EFL) voluntarily signed up for the writing program at a university of science and technology in central Taiwan. These 50 students were from different departments and colleges at the university. Before entering the writing program, the students were asked to take a writing test, namely an error correction test, to identify their English writing proficiency. The 25 test items, including spelling errors, grammatical errors (e.g., misuse of verb tense), and sentence correction (e.g., substitution), in either the pre- or post-test of error corrections were chosen from different versions of nationwide college entrance exams in Taiwan. The maximum score of the error correction pre- and post-tests is 100 and this test's reliability is .87. To evaluate the degree to which students at different English proficiency levels enhance their writing ability using the online feedback training, they were grouped into two groups—more- and less- proficient students—with 25 students in each. The mean score and standard deviation of the more-proficient group on the pre-test were 78.84 and 15.11 respectively, while the less-proficient group's mean score and standard deviation were 62.75 and 10.87. The paired-sample t test shows a significant difference between the two groups' proficiencies ($t(24) = 4.32$, $p < .01$).

Research Design

The computer-supported collaborative learning (CSCL) system was developed to help EFL college students enhance their text revisions when they provide peers with written feedback. The CSCL system includes two modules: a student interface and a teacher interface.

The Student Interface

The passages in the student interface had been written by three native English teachers for the purpose of expanding students' vision of the world; accordingly, a variety of topics were included such as social studies, history, science, and cross-cultural communication. Following Hayes, Flower, Schriver, Stratman, and Carey's revision model (1987), four steps of text revision were included during feedback training: *task definition*, *evaluation*, *strategy selection*, and *modification of the text*, as described below.

Figure 1. The interface of online feedback training.

Task Definition. Students understand the purpose of the learning task as they view the test item in each task (see Figure 1).

Task Evaluation. Students detect errors based on grammatical and organizational knowledge as prompted by the task definition (see Figure 1).

Strategy Selection. As students detect and correct errors in the online feedback training, they can focus on different error types, either local (e.g., misuse of verb tense) or global errors (e.g., description), and consult the online dictionary when they encounter unknown words (see Figure 1).

Modification of the Text. Students correct errors to make the text more comprehensible. In addition, comprehensive explanations, which are the immediate feedback to students' detection and correction, are automatically provided by the CSCL system after students finish the task. For example, as shown in Figure 2, the student is unable to detect and correct the misuse of noun in plurals (local revision), and the system provides students with further explanations. In addition to the immediate feedback from the CSCL system, the teacher assigns sample texts to his students for detecting and correcting text errors. In the practice of correcting errors on the sample texts, students are encouraged to provide their peers with suggestions and comments for text improvement.

Figure 2. Modification of a text.

The Teacher Interface

The process data and students' actions available in the CSCL system permit the teacher to monitor the students' detection and correction of errors. The teacher can read students' log files, diagnose their difficulties on local and global revisions based on their scores, understand their students' interactions on providing and receiving local and global revisions in dialogue boxes, and explore how students solve their writing problems after receiving peers' corrections and suggestions. For example, as shown in Figure 3,

Figure 3. Log files in the system.

the teacher is able to view student scores (automated scoring) on local and global revisions from the log files and understand what difficulties the students have on different revision tasks. The log files record the students' actions in the system such as task identification, evaluation, and scores for each practice task. As such, teachers can provide their students with further scaffoldings.

Procedures of Data Collection

In this study, the online feedback training aimed at strengthening EFL college students' competence in detecting and correcting local and global errors for text revision. The instruction was conducted for 12 weeks from October 5, 2011, through December 28, 2011. Before the instruction began, the pre-test of error correction was provided to identify the students' writing proficiency levels. According to the pre-test, the students were grouped into the more- and less- proficient groups for comparing their different writing improvement after online feedback training. In the first three weeks, the students were asked to write their first drafts of a paper called "My Holiday" and provide peers with feedback in order to help them revise their first drafts and write final texts (final draft 1). Three peers were randomly assigned to read and provide corrections and suggestions toward each student's first draft.

After three weeks of instruction (three hours per week), the online feedback training was implemented for students to practice error detection and correction for another six weeks. The online feedback training on error correction amounted to approximately three to four hours each week and the students were expected to edit two online texts per week. After the online feedback training, the students were again asked to read the same three peers' first drafts, detect, and correct peers' errors, receive peer feedback, revise the same first drafts, and write final texts (final draft 2) during the last three weeks. In other words, all students underwent the revising process as shown in Figure 4.
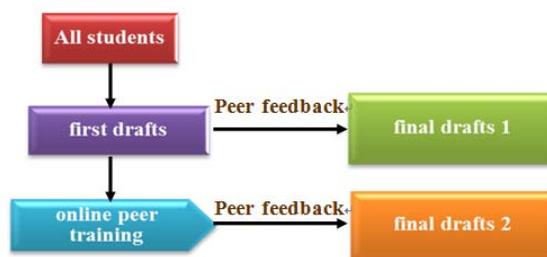
Figure 4. The revising process.

The students' local and global revisions between final drafts 1 and 2 were compared to examine their writing progress before and after the online feedback training. At the end of instruction, the college students were required to take a post-test of error correction to evaluate their progress. The log files which recorded the students' action details in the CSCL system were also analyzed. Finally, an open-ended questionnaire (see Appendix A) was given to the more- and less-proficient groups to investigate their different perceptions toward the effects of online feedback training on text revision.

Procedures of Data Analysis

Data collected in this study include the more- and less-proficient students' pre- and post-tests, statistics between local and global revisions before (final draft 1) and after the online feedback training (final draft 2), the process data (log files) of error correction, and the open-ended questionnaire. First, a paired-sample *t* test compared the means of pre- and post-tests of error correction for both the more- and less-proficient student groups. Second, the scores of text revisions (local or global revisions) on online feedback training were automatically calculated by the CSCL system as feedback to the students. Each online text contained between nine and 12 errors, and the total possible score was 100. Third, in comparing the differences between final drafts 1 and 2, one score point was independently given to each

correct revision by two trained raters who had more than 10 years experiences in EFL teaching, using the scoring rubrics from Cho and Schunn's (2007) and Hall's taxonomy of revision (1990) to analyze the students' corrections of errors in final drafts 1 and 2 (see Appendix B). Finally, the two raters followed the steps of content analysis (Patton, 2002) to evaluate students' text revisions in final drafts. Another two trained researchers investigated the students' perceptions toward the online feedback training in the open-ended questionnaire.

Four steps of content analysis were adopted in this study: coding, categorization, description, and interpretation. First, two groups of raters (two raters for final drafts 1 and 2 and two researchers for the open-ended questionnaire) coded statements from students' error correction recorded in the log files as well as their perspectives toward before and after receiving online feedback training. Next, students' written feedback relating to text revision was categorized into two types, including local and global revisions. The students' statements from the open-ended questionnaire were also categorized. After this, the researchers described the statements by summarizing the main points. Finally, the researchers interpreted the main ideas by offering explanations, drawing conclusions, and making inferences. The inter-rater reliability for the students' text revisions and open-ended questionnaire were .82 and .85, respectively, in this study. Disagreements between two groups of raters (the two raters for text revisions and two researchers for open-ended questionnaire) were resolved through discussion. Data interpretation driven by these research methods is further explained in the following sections.

RESULTS

This section presents the following four categories of results. First, the students' writing progress between the more- and less-proficient groups is shown by the pre- and post-tests of error correction. Second, the students' writing progress between local and global revisions is investigated by the paired-sample *t* tests between the two groups on final drafts 1 and 2. Third, two students, student A and student B, were randomly selected from the more- and less-proficient groups and are presented here to show how the students used revision strategies differently. Multiple revision types are also compared and presented. Finally, the students' perceptions toward the effects of online feedback training on text revision from the two groups are presented.

Students' Writing Progress between the Two Groups

A paired-sample *t* test was conducted in order to compare the effects of online feedback training on the more- and less-proficient students in writing. The results show that the more-proficient students made little writing progress as the mean scores increased from 78.84 on the pre-test to 80.98 on the post-test. Nevertheless, this difference is statistically significant ($t(24) = -2.06$, $p < .05$). In contrast, the mean scores of the less-proficient students increased much more, from 62.75 on the pre-test to 75.82 on the post-test. This was also statistically significant ($t(24) = -6.25$, $p < .01$). This result indicates that the less-proficient students made even more improvement on writing than the more- proficient students did.

Students' Revision Types on Feedback Training of the Two Groups

Revision Types

In this study, the paired-sample *t* test was employed to investigate the effects of online feedback training on EFL college students' text revision. As shown in Table 1, the types of local revision were compared before (final draft 1) and after the online feedback training (final draft 2) of the two groups. Before the online feedback training, the more-proficient students made different types of local revisions in their final drafts 1, but almost no significance were detected in their first and final drafts after the online feedback training. In contrast, the less-proficient students made significantly more revisions in word ($t(24) = -3.25$, $p = .01$) and sentence ($t(24)=-1.47$, $p = .03$) types compared to other revision types between first and final

Table 1. *Types of Local Revision*

	More-proficient students						Less-proficient students					
	Before feedback training		After feedback training				Before feedback training		After feedback training			
	M	*SD*	*M*	*SD*	*t*	*p*	*M*	*SD*	*M*	*SD*	*t*	*p*
Word	4.92	3.84	6.38	4.21	.57	.07	7.08	4.83	9.33	5.61	-3.25	.01**
Phrase	3.07	2.37	3.15	2.27	2.33	.58	3.79	2.28	4.25	3.45	.56	.07
Clause	3.25	2.11	3.53	2.66	1.17	.23	3.08	2.93	3.83	2.12	1.34	.06
Sentence	3.15	2.23	3.23	2.43	2.11	.46	5.27	3.12	5.33	4.49	-1.47	.03*

Note. **$p < .01$, *$p < .05$

drafts. That is to say, the online feedback training became a key factor in helping the less-proficient students make writing progress on revising local errors on their final drafts 2, while the more-proficient students did not make much progress in correcting local errors.

The results of global revision are presented in Table 2. The more-proficient students also detected and corrected various types of global revision before the online feedback training (final draft 1), and there is a statistically significant difference on substitution between first and final drafts ($t(24) = -.33$, $p = .05$) after receiving online feedback training. By contrast, the less-proficient students made great improvement on substitution ($t(24) = -3.26$, $p = .01$), reordering ($t(24) = -.59$, $p = .05$) and consolidation revision ($t(24) = -2.69$, $p = .03$) as they accepted the training of peer feedback. In other words, the more-proficient students were aware of making substitutions after receiving online feedback training while the less-proficient students made significant progress in detecting and correcting errors with substitution, reordering, and consolidation. As a result, after the online feedback training, the less-proficient students greatly raised the quality of their text revisions in revising their final drafts 2.

Table 2. *Types of Global Revision*

	More-proficient students						Less-proficient students					
	Before feedback training		After feedback training				Before feedback training		After feedback training			
	M	*SD*	*M*	*SD*	*t*	*p*	*M*	*SD*	*M*	*SD*	*t*	*p*
Addition	3.16	2.38	3.92	2.18	1.07	.96	3.25	2.38	4.33	2.49	1.45	.63
Deletion	3.05	2.28	3.69	2.25	1.02	.94	3.83	2.86	4.75	3.05	.78	.16
Substitution	4.84	3.62	5.17	3.76	-.33	.05**	6.08	4.06	7.91	4.67	-3.26	.01**
Reordering	3.53	2.77	3.84	2.58	1.12	.98	4.41	3.51	4.98	3.51	-.59	.05*
Consolidation	3.38	2.50	3.53	2.54	.99	.87	4.50	3.67	5.85	4.33	-2.69	.03*

Note. **$p < .01$, *$p < .05$

The Process of Text Revision

To investigate the effects of online feedback training in receiving and providing peer feedback between the more- and less-proficient students, two sample cases—student A and student B—were randomly selected from the more- and less-proficient groups. Student A, from the more-proficient group, made no measurable progress on his text revisions. Student B, from the less-proficient group, made many more text revisions.

Text Level	Revision Type	Test item	Score
Intermediate	Local revision	Verb voice	78.9
Intermediate	Local revision	Verb voice	82.33
Intermediate	Local revision	Relative pronoun	81.09
Intermediate	Global revision	Description	72.91
Intermediate	Global revision	Description	80

Student A's progress in the online peer training

Figure 5. Student A's scores on the online peer training.

Tracing the action logs in the online feedback training, student A made reading and writing progress on local revision (verb voice) and global revision (description) as he practiced detecting and correcting errors (see Figure 5). After the online feedback training, student A made two revisions on his final draft 2 after receiving his peers' error corrections (Table 3). For example, in sentence (2), student A did not use a conjunction to connect two sentences. After receiving his peers, S2, S3, and S4's comments, student A added the conjunction *but* to connect the two sentences during text revision. In sentence (5), student A made the incorrect word usage error *spend more time to read* in his first draft. After receiving his peers'comments, student A revised the sentence to become *spend more time reading* on his final draft 2.

Table 3. *Student A's Final Draft 2*

Student A's first draft	Peer feedback	Error correction	Student A's final draft 2
(1) During the holiday, we have a lot of free time to do whatever we want.		None	(1) During the holiday, we have a lot of free time to do whatever we want.
(2) Some people maybe go shopping with their friends, others may play video games.	You should use *but* as a conjunction to connect two sentences (S2, S3, and S4)	Revise	(2) Some people maybe go shopping with their friends, but others may play video games.
(3) In my opinion, we should take a plan to have a meaningful holiday.		None	(3) In my opinion, we should take a plan to have a meaningful holiday.
(4) For example, I meet my old friends because we can not only talk some interesting news, but also play some table games.		None	(4) For example, I meet my old friends because we can not only talk some interesting news, but also play some table games.
(5) Besides, I would also plan to spend more time to read some books in my holiday.	When you write the word of *spend*, you should use *V-ing* after the verb. (S2 and S4)	Revise	(5) Besides, I would also plan to spend more time reading some books in my holiday.

In addition to receiving his peers' suggestions, student A also provided his peers with two revisions (Table 4). For example, for sentence (2), he suggested that his peers delete *because* and add the article *the* before *amusement park* in sentence (3). No detailed explanations were found for these two suggestions.

Table 4. *Student A's Feedback to His Peer's Text*

S5's first draft	Student A's feedback	Error correction	S5's final draft 2
(1) Having a holiday is a very exciting thing.		None	(1) Having a holiday is a very exciting thing.
(2) Because you can going to anywhere or do something what you want to do.	You should delete *because* here.	Revise	(2) You can going to anywhere or do something what you want to do.
(3) For example, I go to amusement park with my family or friends to search for interesting things.	You should add *the* before *amusement park*.	Revise	(3) For example, I go to the amusement park with my family or friends to search for interesting things.
(4) Sometimes, I also choose to see a movie or play the computer games in the holiday because these activities help me relax my mind.		None	(4) Sometimes, I also choose to see a movie or play the computer games in the holiday because these activities help me relax my mind.
(5) Hence, we should enjoy our holiday and plan it carefully.		None	(5) Hence, we should enjoy our holiday and plan it carefully.

That is, student A did not clarify his peers' writing problems. Viewing the log files in the CSCL system, student A did not actively engage in text revision with his peers since he only detected and corrected his peers' local errors but failed to give detailed explanations to clarify his peers' writing problems. Student B, on the other hand, actively participated in the online feedback training and made greater improvement on local revision (verb voice and relative pronoun) and global revision (exposition) (see Figure 6).

Text Level	Revision Type	Test item	Score
Intermediate	Local revision	Verb voice	66.67
Intermediate	Local revision	Verb voice	69.11
Intermediate	Local revision	Verb voice	75.01
Intermediate	Local revision	Relative pronoun	66.68
Intermediate	Local revision	Relative pronoun	70
Intermediate	Local revision	Relative pronoun	75.01
Intermediate	Global revision	Exposition	66.68
Intermediate	Global revision	Exposition	70

Student B's progress on two local revisions in the online peer training.

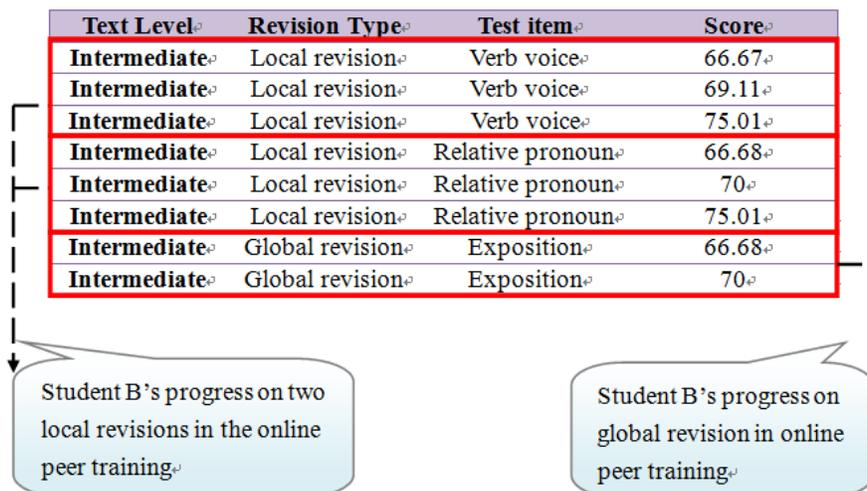Student B's progress on global revision in online peer training.

Figure 6. Student B's scores on the online feedback training.

Table 5. *Student B's First Draft and Final Draft 2*

Student B's first draft	Peer feedback	Error correction	Student B's final draft 2
(1) In a year, we have many holidays.		None	(1) In a year, we have many holidays.
(2) But Chinese new year is my favorite holidays because my family would gather together and I can play with my cousins.	You cannot put *but* and *because* in a sentence. You cannot use *but* here because there is no comparison. (S10, S14, and S17)	Revise	(2) Chinese new year is my favorite holidays because my family would gather together and I can play with my cousins.
(1) After dinner, adult would give children lucky money in a red envelope in Chinese new year because we believe that the lucky money brings wishes for children.	*Adult* is a countable noun, you should use *adults* or *the adult*. (S10, S14,and S17)	Revise	(3) After dinner, adults would give children lucky money in a red envelope in Chinese new year because we believe that lucky money brings wishes for children.
(2) Sometimes we also play firecrackers to celebrate Chinese new year.		None	(4) Sometimes we also play firecrackers to celebrate Chinese new year.
(3) Most important of all, we can take a trip to relax our mind and body for a special day.	Is it only one day for Chinese new year? (S10 and S17)	Revise	(5) Most important of all, we can take a trip to relax our mind and body for several days.

After her online feedback training, student B received suggestions from S10, S14, and S17 regarding sentence (2) that she could not use both *but* and *because* in an English sentence. Her peers also provided student B with detailed explanations (Table 5). For sentence (3), S10, S14, and S17 pointed out that *adult* is a countable noun, so student B should use the word *adults* instead of *adult*. In addition, student B's peers also suggested a global revision by proposing the question *Is it only one day in a Chinese new year?* to raise her awareness.

Table 6. *Student B's Text Revision to Her Peer's Text*

S15's first draft	Student A's feedback	Error correction	S15's final draft 2
(1) In everyone's life has a different experience.	The sentence structure should be revised like *Everyone has different experiences in life.*	Revise	(1) Everyone has different experiences in life.
(2) A good experience makes people have a good impression, and the bad experience is opposite.	A good experience is a singular noun, so you should add *-s* of *make*.	Revise	(2) A good experience makes people have a good impression, and the bad experience is opposite.
(3) No matter good or bad experience, these can let people left a deep impression.	*Let* is a causative verb, so you should use *leave* instead of *left*.	Revise	(3) No matter good or bad experience, these can let people leave a deep impression.
(4) An unforgettable experience occurred when I was ten.	Spelling errors.	Revise	(4) An unforgettable experience occurred when I was ten.

(5) My teacher asked me to participate in a speech contest.	None	(5) My teacher asked me to participate in a speech contest.

On giving feedback to one of her peers (Table 6), student B provided S15 with local and global revisions. In sentence (1), student B detected incorrect sentence structure and suggested that her peer revise the sentence and write *Everyone has different experiences in life*. It can be seen that student B raised her language awareness of how to revise sentence structure after receiving the online feedback training. Student B also detected S15's grammatical errors in sentences (2), (3), and (4) and provided detailed explanations to S15. Based on the detailed explanations, S15 was able to understand his writing problems better and made further text improvement. Consequently, student B received more benefits from the online feedback training since she explicitly observed her peers' local and global revisions of her first draft. She became a facilitator as she supported her peer (S15), increasing his writing knowledge of text structure, noun, and verb use.

Student B's interactions with peers, based on her action logs in the CSCL system, are shown in Figure 7. After student B received her peers' text revisions (S10, S14, and S17), she also provided her peers (S11, S15, and S20) with feedback to clarify the writing problems. Student B's local and global revisions to S15's text is shown in Table 6. The reciprocal interactions for text revisions were extended to other students.
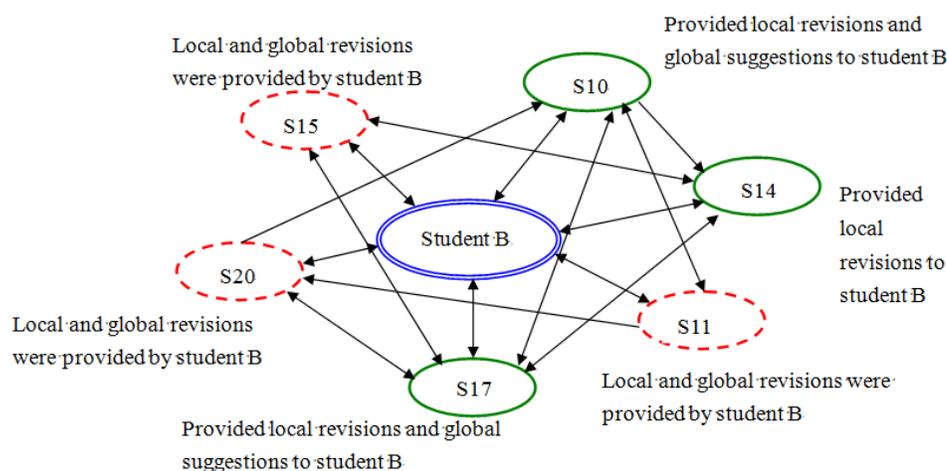

Figure 7. Student B's interactions with peers.

Students' Perceptions toward the Effects of Online Feedback Training on Text Revision

The results from students' open-ended questionnaire toward the effects of online feedback training on text revision are presented in Table 7. Most of the more-proficient students (92%) could not trust their peers' text revisions even if their peers had received the online feedback training. In contrast, all 25 participants in the less-proficient group provided their peers with both local and global revisions after the online feedback training. There were 21 participants (84%) who pinpointed that they were aware of how to detect and correct their peers' errors since they had had opportunities to explicitly observe how their more-proficient peers detected and corrected errors in the CSCL system. They had also had chances to practice error correction in the CSCL without the limitations of time and space. In addition, they corrected their written errors and learned from each other as they corrected other peers' errors which were similar to theirs.

Table 7. *Students' Perceptions Toward Text Revision (N = 50)*

Statement		Frequency
The more-proficient group	1. I cannot trust my peers' comments because they are unable to provide correct feedback to me.	23
	2. My peers usually revise my local errors. They spend time checking my spelling and punctuation marks only.	20
	3. Though my peers are not as professional as my teacher, they still give me some comments which help me improve my text.	16
The less-proficient group	1. I think that the online feedback training (without the limitations of time and space) assists me to raise my revision quality when I revise my peers' texts.	21
	2. I become more sensitive to detect and correct my peers' errors, and confidently provide my peers with useful suggestions.	22
	3. As I revise my peers' texts, I can observe how the more-proficient peers detect and correct errors. I can make both local and global revisions after the online feedback training.	18
	4. I think I can provide my peers with correct and useful feedback to improve their writing.	18
	5. After I clarify and revise my errors, I can detect other peers' errors which are similar to mine.	14

As shown in Table 8, almost all participants, both the more-and less-proficient groups, agreed that receiving immediate feedback from the online feedback training was beneficial for them since they could verify the reason why they had made incorrect text revisions. There were 44 (88%) participants stating that the online feedback training could enhance their text revision quality, and they were willing to do more practices online as they liked it when their peers considered their suggestions.

Table 8. *Students' Perceptions Toward the Online Feedback Training (N = 50)*

Statement	Frequency
1. I liked to receive immediate feedback from the online system. It helped me to understand why I made incorrect text revisions.	48
2. Using online feedback training is a good way to improve my text revision quality. I think I should spend more time practicing error correction in the system.	44
3. I encountered many unknown words as I practiced online error corrections, but I consulted the online dictionary to understand the word meanings.	40
4. Though I practiced online error corrections many times, I was sometimes still unable to detect and correct my peers' errors.	16
5. As I had difficulties in detecting and correcting errors in the online system, I asked for	10

help from my peers and the teacher.

DISCUSSION AND CONCLUSION

The results of this study show that the online training for providing peer feedback had positive effects on improving EFL college students' text revisions (Berg, 1999; Min, 2005, 2006; Stanley, 1992). In online feedback training, EFL college students engaged in providing and receiving local and global revisions as they had gradually developed reader-based perspectives and the clarity of writing purpose in substitution, reordering, and consolidation rather than revised surface level of errors only. Particularly, the less-proficient made more local and global revisions after explicit guidance/instruction of online feedback training. In contrast, the more-proficient students did not have many significant differences on local and global revisions after online feedback training. This finding is in line with some studies (e.g., de Guerrero & Villamil, 1994; Mendonca & Johnson, 1994; Steendam, Rijlaarsdam, Sercu, & den Bergh, 2010; Villamil & de Guerrero, 1996) that receiving the feedback training could help students improve their written texts and increase their writing awareness, especially for the less-proficient students. In addition, different from Min's studies (2005, 2006) which emphasized the statistics of revision types and quality for feedback training in onsite instruction, this study designed the CSCL system for feedback training to help EFL college students practice local and global revisions without restrictions of time and space. The students received immediate feedback of explanations and scores from the CSCL system for text errors which they did not detect or correct in revision tasks. They could explicitly observe how their more-proficient peers detected and corrected errors, clarified writing problems, and finally provided useful suggestions for text improvement.

In terms of this study's key findings, first, the less-proficient students made greater improvements in text revisions than the more-proficient students did after the online feedback training on error detection and correction. That is, the less-proficient students enhanced their language awareness through reading the texts, detecting and correcting online local and global errors, and finally providing their peers with useful suggestions and explanations to clarify their writing problems. The more-proficient students made little writing progress in text revisions since they might not make many local and global errors in their first drafts. Second, through comparing the types of revisions made by the more- and less-proficient groups, the results show that the less-proficient students raised the quality of their text revisions on correcting both local and global errors. They frequently detected errors at word and sentence levels (local revisions). They also corrected errors on substitution, reordering and consolidation for global revision. In contrast, the more-proficient group made less progress on local and global revisions. Most of the more-proficient students (92%) did not trust their peers' revisions much, and consequently, did not raise the quality and acceptance on text revisions after the online feedback training.

Third, with respect to students' perceptions toward the effects of online feedback training on text revisions, the more-proficient students expressed their lack of trust on their peers' feedback since their peers were not domain experts. They might reject their peers' comments due to their peers' limited writing knowledge. The less-proficient students, however, actively participated in the online feedback training and observed how their peers detected and corrected errors for them. They also learned from peers as they were able to detect other peers' errors which were similar to theirs. Fourth, both the more- and the less-proficient groups agreed that receiving immediate feedback on local and global errors from the online system was helpful for them in clarifying their reading and writing problems.

Finally, online feedback training is confirmed to help EFL students detect and correct their own and peers' errors. After online feedback training, collaborative revisions can be beneficial for bettering writing competence as it elicits more suggestions and comments when students engage in revising texts.

Without feedback training, students may commonly provide or receive invalid and incorrect feedback, leading them to distrust or reject peer feedback no matter how many times their peers revise the texts (Sluijsmans et al., 2002; Topping, 1998).

Some limitations and suggestions for the future studies were also found in this study. First, since only 50 college students participated in this study, the sample size was not big enough to explain EFL college students' revision types, learning experiences, and perceptions in terms of online error correction. In other words, the results of this study might not be representative to fully interpret all the problems that EFL college students encountered and solutions that can be proposed for online feedback training. Second, the scores that the students obtained in online feedback training and final drafts should be investigated in the future study. By examining these two scores, the correlation between online peer training and written texts could be further explored. Finally, the teacher's perceptions toward online feedback training should be investigated in the future (Steendam et al., 2010). This could reveal more information regarding how the teacher could use online feedback training as instructional intervention to improve EFL college students' text revisions and provide further scaffolding to clarify their students' writing problems.

APPENDIX A. Open-Ended Questionnaire

1. How does online feedback training help you enhance English writing competence?

2. Do you think that receiving immediate feedback from the online system benefits your error detection and correction task?

3. Do you think that you can detect and correct local and global errors for text improvement after online feedback training? And how?

4. How do you improve your texts after receiving peers' corrections and suggestions?

5. Do you think that you can provide peers with correct and useful feedback before or after online feedback training? And how?

6. How do you accept or reject your peers' feedback before and after online feedback training?

7. What are the difficulties that you encounter in using the online system?

8. When you encounter the difficulties in using the online system, what are the strategies that you use to overcome?

9. What are the differences between *before* and *after* online feedback training in your text improvement?

APPENDIX B. Scoring Rubrics for Text Revision

Examples of Local Revision (Cho & Schunn, 2007)

Type	Example
Word	My grandmother grows some **carots** in the garden.
	→ My grandmother grows some **carrots** in the garden.
Phrase	I often **take grammatical errors** in writing academic texts.
	→ I often **make grammatical errors** in writing academic texts.

Clause	Jason is the right leader **who all teenagers can rely on**.
	→ Jason is the right leader **whom all teenagers can rely on**.
Sentence	It spends Karen many hours to get to the airport in terms of the traffic jam.
	→ **Karen spends many hours to get to the airport in terms of the traffic jam.**
	→ **It takes Karen many hours to get to the airport in terms of the traffic jam.**

Examples of Global Revision (Hall, 1990, p. 50)

Type	Example
Addition	When others might have run away in fear, the soldier fought against the horrible enemy.
	→ When others might have run away in fear, the soldier **bravely** fought against the horrible enemy.
Deletion	We tried three new meals, and the tastiest dish was the Thai dish, but I think Chinese dish is also a good choice.
	→ We tried three new meals, and the tastiest dish was the Thai dish.
Substitution	So as to win the championship of gymnastics, we have to practice hard.
	→ **We have to greatly practice in order to win the championship of gymnastics.**
Reordering	**I didn't learn any new knowledge**, but I took their classes.
	→ I took their classes, but **I didn't learn any new knowledge**.
Consolidation	He never taught me anything I had not learned. I can't say I liked that English teacher.
	→ **Because** he never taught me anything **I had not learned**, I can't say I liked that English teacher.

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