Effects of Teacher Feedback on the Rewrites of Chinese Undergraduates' English Argumentative Essays

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Abstract

The present mixed-method study examined the effects of teacher feedback on the rewrites of English argumentative essays by Chinese undergraduates in a prestigious university in Beijing. Drafts 1 and 2 on the same topic written by 117 of these students, as well as teacher feedback on drafts 1, were collected and analyzed. Meanwhile, 127 of the same population answered the Perceptions Toward Teacher Feedback Questionnaire, 47 of whom were interviewed. Major findings were: (a) syntactic errors occurred the most frequently in Drafts 1 and 2 and teacher feedback, followed by lexical and content errors respectively, (b) Drafts 1 differed significantly from teacher feedback in 15 types of errors, both Drafts 1 and teacher feedback differed significantly from Drafts 2 in almost all types of errors, Draft 1 scores were statistically significantly lower than Draft 2 scores, (c) the intake of eight types of errors were powerful predictors of Draft 2 scores, and (d) the students were generally highly positive toward teacher feedback and considered it highly helpful. Apparently, teacher feedback had a significantly positive effect on the students' composition revisions. Based on these findings, some implications are discussed.

Key words: teacher feedback, effect, revision, argumentative essay

Introduction

Given that both writing and assessing writing are time-consuming and challenging (Qi, 2004; Wang, 2004), different types of feedback have been executed such as peer review and machine feedback, as well as teacher feedback to help foreign/second language (FL/SL) learners write more effectively (& 2016; Shintani, 2015). Even though both peer review and machine feedback have proved to be useful in assisting SL/FL learners' writing, teacher feedback is still the most popular among SL/FL learners. This is not only because teachers are grade givers

and thus often considered authoritative (Earls, 1987), but also because teacher feedback has proved to be more effective in students' composition revisions (Ferris, 1997; 2004; Hattie & Timperley, 2007; Keh, 1990; Sterna & Solomo, 2006; Vardi, 2009). Thus, students may be more willing to revise their compositions according to teacher feedback. Even so, the effects of teacher feedback on composition revisions and the quality of rewrites, though often researched, are still in wide discussion, which might be attributed to many variables such as research design and methodology, as well as teacher and learner characteristics (Guénette, 2007; Hattie & Timperle, 2007; Kang & Han, 2015; Lee, 2014). Targeting Chinese university EFL (English as a FL) learners, the present mixed-method study examined the effects of teacher feedback on the rewrites of their English argumentative essays.

Literature review

In the past few decades, the process approach to writing has become popular among SL/FL writing instructors, which argues that writing is recursive (Stewart & Cheung, 1989). Supporters of this approach argue that it is essential for writing instructors to help students develop skills necessary to create ideas, search for ways of expressing the ideas, and polish their writing (Caulk, 1994). Feedback of all kinds, as well as required revision, is fundamental in writing classrooms using this approach (Keh, 1990; Paulus, 1999).

Feedback refers to the "information with which a learner can confirm, add to, overwrite, tune, or restructure information in memory, whether that information is domain knowledge, meta-cognitive knowledge, beliefs about self and tasks, or cognitive tactics and strategies" (Winne & Butler, 1994, p. 5740). In both behaviorist and cognitive theories of SL/FL learning, feedback is considered conducive to language learning (Ellis, 2009; Ferris, 2010) and powerfully affects learning and achievement (Hattie & Timperley, 2007). Despite the time-consuming nature of providing comments, teacher feedback is both desirable and helpful. By providing comments on a writing assignment, an instructor offers expert advice for improvement on students' writing (Costello & Blakesley, 2001, p.39). This has actually been confirmed in empirical research, which shows that students prefer teacher feedback and are more likely to incorporate it into their rewrites (Ashwell, 2000; Bitchener & Knoch, 2009; Bitchener, Young & Cameron, 2005; Chandler, 2003; Connor & Asenavage, 1994; Ferris, 2010; Lee, 2004; Li, 2010; Miao, Badger

& Zhen, 2006; Saito, 1994; Truscott, 2007; Vardi, 2009). For example, based on Faigley and Witte's (1981) taxonomy of revisions, Paulus (1999) categorized the types and sources of revisions made in 11 ESL (English as a SL) student essays to evaluate the first and final drafts of the essays. The researcher also recorded students' verbal reports during revision. The results revealed that teacher feedback had a greater impact on the rewrites than peer feedback and that writing multiple drafts resulted in overall essay improvement. To explore the relationship between teacher feedback and composition revisions of 6 students in two academic writing classes, Hyland (1988, 2003) collected data from teacher think-aloud protocols, teacher and student interviews and student texts. He found that teachers were much concerned with language accuracy when providing feedback despite their beliefs and teaching approaches. He also found that students incorporated teacher feedback into their revisions to varying degrees due to individual differences in needs and approaches to writing. The researcher thus suggested a more open teacher-student dialogue on feedback in that students might have misunderstandings of the feedback.

Matsumura, Patthey-Chavez, Valdés and Garnier's (2002) investigation showed that the amount and type of teacher feedback predicted a significant though small effect on the quality of the content, organization, and mechanics of students' final drafts. The researchers thus suggested a need for professional development for teachers. Sterna and Solomo (2006) collected faculty comments from 598 graded papers written for hundreds of courses from 30 different departments in a university. Results indicated that most comments were technical corrections concerned with spelling, grammar, word choice, and missing words, and that there were no macro- and mid-level comments concerned with paper organization and quality of the ideas. Understandably, students might thus choose to focus on technical issues in their rewrites. Kang and Han (2015) adopted a meta-analytic approach to synthesizing 21 primary studies. They found that written corrective feedback led to greater grammatical accuracy in SL writing, though mediated by a host of variables such as learners' proficiency, the setting, and the genre of the writing task, partly supporting the finding in Bitchener et al. (2005).

As reviewed, teacher feedback is useful to student writing (Ferris, 1997; Olson & Raffeld, 1987; Vardi, 2009). Even so, as discussed in Paulus (1999) and Hattie and Timperle (2007), the effects of teacher feedback and revision process on the

improvement of student writing are yet to be determined. This may be due to various factors such as research design and methodology, teacher and learner approaches to SL/FL writing, and teacher and learner characteristics (Guénette, 2007; Kang & Han, 2015). The difference may also be explained by the small sample size used in most current studies. To further enrich the present literature, the present study, targeting Chinese university EFL learners, aimed to examine the effects of teacher feedback on the rewrites of their English argumentative essays. The specific research questions were:

1) What teacher feedback is given to Chinese university learners' English argumentative essays?
2) How does teacher feedback impact the learners' rewrites of English argumentative essays?

Research Design

Context. The present research was conducted in a highly prestigious university in Beijing, which attached great importance to English writing and required each undergraduate to take at least one academic English reading and writing course. The participants in the present research, predominantly male, were all intermediate-advanced English learners and registered in the English Argumentative Reading and Writing course taught by the same teacher. The class met once a week for a 90-minute period, lasting for 16 successive weeks. The teacher was in her early forties, had a Ph.D in Applied Linguistics, was widely published, had been teaching the course for five years. The course, focusing on reading and writing English argumentative essays, discussed numerous techniques related to English argumentative essay reading and writing such as text structure, statement of main and supporting arguments, paragraph structure, argument-developing skills, quality of evidence, cohesion and coherence, and use of references. Students were required to write three long argumentative essays (more than 400 words) as well as a few short ones (about 100 words). Adopting the process approach to writing, the instructor stressed the importance of revision and encouraged students to revise their drafts on the same composition at least twice (most students revised their drafts three times). To help them write English argumentative essays more effectively, she gave feedback electronically on each draft at sentence, paragraph and text levels, and held classroom and person-to-person discussions with students about

Drafts 1 and teacher feedback for about 45 minutes in class the following week when all students had received teacher feedback on their first drafts. Based on these, the students revised their first drafts thereafter.

Participants. Students (altogether 158) registering in the English Argumentative Reading and Writing course who participated in the present study: 127 (102 male and 25 female) students filled in the questionnaires related to their background information and perceptions of teacher feedback. Of these, 117 submitted all required draft for analysis. Subsequently, 47 were interviewed for their verbal perceptions about teacher feedback, With an age range of 16-27 and an average of 19.42, the survey participants were from various disciplines such civil engineering, mathematics, chemistry, and architecture: 74.8% of them were students of Engineering, 11% of Science, 9.4% of Arts and Humanities, and 4.7% of unknown disciplines.

Instruments. The data in the present research were from questionnaires, interviews, texts, and writing scores, as detailed below.

Student texts. The first (Draft 1) and second (Draft 2) drafts of the course's second composition on global warming, together with teacher feedback, were collected. Based on student consent and the completeness of both drafts, 117 compositions of each draft as well as teacher feedback were finally collected to be used in the present research.

Writing scores. The scores of drafts 1 and 2 were collected, which were scored by the instructor on a scale of 1-15 in terms of text structure, power of argumentation, coherence, grammar and use of words.

Perceptions of Teacher Feedback Questionnaire. This 14-item Perceptions of Teacher Feedback Questionnaire (PTFQ) was developed to investigate students' attitudes towards teacher feedback in terms of its role and usefulness in their composition revisions, which involved such issues as grammar, use of words, expression of viewpoints, use of evidence, and references (Wyrick, 2008). All the items were placed on a 7-point Likert Scale, ranging from "Strongly Disagree" to "Strongly Agree" with values of 1-7 assigned to each of the alternatives respectively.

The Background Questionnaire. The background questionnaire aimed to collect informants' personal information such as age, gender, and major.

Informal semi-structured interview. The informal semi-structured interview guide involved such questions concerning teacher feedback as its coverage, advantages and disadvantages, and effect on composition revisions.

Procedure. Data were collected during weeks 7-9 of the semester when the second argumentative essay on global warming was assigned. Drafts 1 were finished and submitted online in week 7, followed by teacher feedback in weeks 7-8. In week 8's class meeting, the instructor conducted a public review of drafts 1 and had face-to-face communication with the class about their drafts 1 and teacher feedback. Revisions were finished and submitted online in weeks 8-9. In week 9's class meeting, the questionnaires, together with a consent form, were distributed to the students who answered them in about five minutes during the class break. According to the consent forms, 47 students were informally interviewed by two research assistants thereafter in week 9. Each interview was conducted (and recorded) in Chinese (Mandarin), and lasted for about 10 minutes.

Data analyses. Since teacher feedback was made at sentence, paragraph, and text levels, accordingly, the present research analyzed teacher feedback and student texts at the three levels. For this purpose, this study categorized errors with reference to the revision scheme in Kramer, Leggett and Mead (1995). The scheme used in the present study covered 4 types of errors: content errors (nine aspects involving failure to show a controlling idea, improper topic sentence and failure to achieve paragraph coherence, etc.), mechanical errors (misspelling, punctuation and capitalization errors), syntactical errors (errors involving tense, part of speech, article, verb, adjective/adverb degree, agreement, and case, etc.), and lexical errors (errors in word formation, word choice, collocation and unclear expression). Drafts 1 and 2 were analyzed carefully using the scheme (Kramer et al., 1995) to identify what errors were made by the writers. Teacher feedback was also analyzed using the scheme to explore what suggestions were made by the instructor. All the analyses were conducted by two research assistants with an average inter-rater coefficient of .89. Then the number of each type of error was counted for each text. The results were then analyzed via SPSS 20 to explore the distribution of and differences in different types of errors between Drafts 1, teacher feedback and Drafts 2. To explore the effect of teacher feedback on student revisions, the intake of different types of errors in Teacher Feedback was identified and calculated in each Draft 2. Then, multiple regression analyses were run, with Draft 2 scores being the de-

pendent variable and the intake of teacher feedback of errors of different types being independent variables.

The survey data were also computed via SPSS 20. The mean and standard deviation of each survey item were computed to determine how the students perceived teacher feedback. The interview recordings were first transcribed, double-checked and then analyzed according to themes (Charmaz, 2006).

Results

Text analyses results

Content of teacher feedback

The errors in Drafts 1 and 2 as well as teacher feedback were identified, coded and counted, which were then analyzed in terms of mean and standard deviation (see Table 1).

Table 1: Means and Standard Deviations of Errors in Student **Texts and Teacher Feedback** (N = 117)

As seen from Table 1, the errors with highest mean scores in Drafts 1 were SE6 (article errors) (mean = 2.67), LE2 (word choice errors) (mean = 2.13), SS2 (tense errors) (mean = 1.68), SS7 (mean = 1.49), LE3 (collocation errors) (mean = 1.25), LE4 (unclear expressions) (mean = 1.25), SS3 (agreement errors) (mean = 1.22), SS1 (errors in part of speech) (mean = 1.19), C3 (failure to provide adequate evidence) (mean = 1.19), and ME (mechanical errors) (mean = 1.07); the errors with highest mean scores in Teacher Feedback were SS6 (mean = 2.50), LE2 (mean = 1.88), C3 (mean = 1.63), SS2 (mean = 1.50), SS7 (errors in plural forms of nouns) (mean = 1.17), LE4 (mean = 1.15), SS1 (mean = .91), SS3 (mean = .85), LE3 (mean = .74), and SS4 (mean = .73); the errors with highest mean scores in Drafts 2 were LE2 (mean = .75), SS6 (mean = .62), SS2 (mean = .53), LE4 (mean = .36), SS7 (mean = .36), LE3 (mean = .35), SS3 (mean = .33), SS1 (mean = .299), SS4 (verb errors) (mean = .299), and C3 (mean = .26).

Table 1: Means and Standard Deviations of Errors in Student **Texts and Teacher Feedback** (N = 117)

	Draft 1		Teacher Feedback		Draft 2	
	M	SD	M	SD	M	SD
C1	.62	.68	.50	.68	.12	.40
C2	.50	.76	.33	.66	.197	.77
C3	1.19	1.43	1.63	1.59	.26	.51
C4	.36	.74	.31	.66	.09	.32
C5	.21	.45	.37	.75	.09	.34
C6	.21	.47	.29	.63	.07	.29
C7	.299	.46	.28	.63	.07	.31
C8	.31	.46	.17	.38	.02	.13
C9	.25	.43	.21	.41	.13	.34
Total C	3.96	2.81	4.09	2.55	1.03	1.48
ME	1.07	2.41	.496	.85	.22	.54
SS1	1.19	1.76	.91	1.27	.299	.69
SS2	1.68	1.77	1.50	1.42	.53	.90
SS3	1.22	1.21	.85	1.13	.33	.72
SS4	.83	.83	1.18	.73	1.10	.299
SS5	.09	.09	.34	.05	.29	.03
SS6	2.67	2.67	2.22	2.50	2.10	.62
SS7	1.49	1.49	1.51	1.17	1.36	.36
SS8	.15	.15	.42	.14	.35	.01
SS9	.09	.09	.29	.02	.13	.02
SS10	.55	.55	1.09	.56	1.07	.09
SS11	.79	.79	.94	.73	1.12	.21
SS12	.11	.11	.47	.09	.31	.07
SS13	.26	.26	.79	.26	.73	.09
SS14	.07	.07	.25	.13	.46	.07
SS15	.14	.14	.51	.26	.48	.16
SS16	.73	.73	.82	.54	.76	.24
Total SS	13.09	13.09	5.96	10.92	5.09	3.62
LE1	.06	.06	.27	.02	.13	.01
LE2	2.13	2.13	2.02	1.88	1.96	.75
LE3	1.25	1.25	1.25	.74	1.00	.35
LE4	1.25	1.25	1.11	1.15	1.16	.36
Total LE	4.68	4.68	2.32	3.79	2.44	1.47
Total E	21.74	21.74	8.15	18.81	7.19	6.15
Writing Score	11.38	11.38	1.83			13.40

Notes: Please refer to Appendix I for the abbreviations of error types
TotalC = total number of content errors; TotalSS = total number of syntactic errors TotalLE = total number of lexical errors; TotalE = total number of errors

Comparison of the mean scores of the errors across Drafts 1, Teacher Feedback and Drafts 2 shows that the errors of most types scored more or less in Drafts 1 and Teacher Feedback and that the errors of all types scored the lowest in Drafts 2. Paired samples t-test results (see Table 2) showed that Drafts 1 differed significantly from Teacher Feedback in 15 types of errors, largely with a small or medium effect size. This might be because the instructor advised the students to carefully proofread their writings for a certain type of errors instead of marking for them all the errors of the same type. Table 2 also shows that both Drafts 1 and Teacher Feedback differed significantly from Drafts 2 in almost all types of errors, largely with a medium or large effect size. In addition, Draft 1 scores were statistically significantly lower than Draft 2 scores, with an effect size of .62.

Effect of teacher feedback on students' rewrites

To explore the effects of teacher feedback on students' rewrites, the intake of each type of errors were identified and calculated. Then multiple regression analyses were run, with Draft 2 scores being the dependent variable and the intake of errors of different types being independent variables. The results are presented in Tables 3 and 4.

As shown in Tables 3 and 4, 8 models were produced for Draft 2 scores, with the change in R^2 being all significant (see Table 3). Of the 8 predictors in Model 8, all were positive predictors, generally with a small effect size. The most powerful predictor was TotalC (total sum of content errors) ($\beta = .451$, $t = 5.31$, $f^2 = .083$), followed by TotalE (total sum of errors) ($\beta = .252$, $t = 2.96$, $f^2 = .048$), C1 (failure to show one controlling idea) ($\beta = .212$, $t = 2.43$, $f^2 = .036$), TotalSS (total sum of syntactic errors) ($\beta = .188$, $t = 2.37$, $f^2 = .021$), SS2 (tense errors) ($\beta = .168$, $t = 2.33$, $f^2 = .016$), LE2 (word choice errors) ($\beta = .152$, $t = 2.23$, $f^2 = .013$), SS6 (article errors) ($\beta = .147$, $t = 2.21$, $f^2 = .011$), and LE4 (unclear expressions) ($\beta = .133$, $t = 2.17$, $f^2 = .001$).

Table 2: Paired Samples t-test Results (N = 117) (degree of freedom = 116)

	Draft1 & TF			TF & Draft 2			Drafts 1 & 2		
	t	p	d	t	p	d	t	p	d
C2	2.65	.009	0.19	1.96	.052	/	3.57	.001	0.23
C3	-2.70	.008	0.07	9.59	.000	0.64	7.29	.000	0.47
C4	-.74	.463	/	3.22	.002	0.21	3.62	.000	0.24
C5	-2.73	.007	0.69	4.76	.000	0.25	3.74	.000	0.14
C6	-1.45	.150	/	3.45	.001	0.22	2.97	.004	0.16
C7	.36	.717	/	4.57	.000	0.21	5.40	.000	0.23
C8	2.92	.004	0.15	4.09	.000	0.24	6.38	.000	0.45
C9	1.15	.253	/	1.75	.083	/	2.62	.010	0.14
TotalC	-.64	.525	/	14.82	.000	0.81	13.17	.000	0.78
ME	2.73	.007	0.14	2.92	.004	0.21	3.70	.000	0.46
SS1	1.76	.082	/	5.42	.000	0.33	5.57	.000	0.44
SS2	1.47	.143	/	6.90	.000	0.41	6.55	.000	0.46
SS3	4.39	.000	0.22	4.39	.000	0.30	7.22	.000	0.42
SS4	1.71	.090	/	3.98	.000	0.27	4.64	.000	0.30
SS5	2.03	.045	0.08	.498	.619	/	1.35	.181	/
SS6	2.02	.046	0.34	9.55	.000	0.64	9.82	.000	0.68
SS7	3.74	.000	0.28	5.72	.000	0.39	7.55	.000	0.50
SS8	.332	.740	/	4.13	.000	0.28	3.41	.001	0.30
SS9	3.11	.002	0.13	.00	1.00	/	2.55	.012	0.13
SS10	-.576	.566	/	4.68	.000	0.37	4.35	.000	0.37
SS11	1.02	.309	/	4.12	.000	0.32	5.10	.000	0.34
SS12	.773	.441	/	.41	.685	/	.799	.426	/
SS13	.000	1.00	/	2.56	.012	0.17	2.41	.018	0.17
SS14	-1.35	.179	/	1.26	.210	/	.000	1.000	/
SS15	-2.25	.026	0.05	1.73	.086	/	-.51	.614	/
SS16	3.47	.001	0.20	3.41	.001	0.22	5.70	.000	0.30
TotalSS	6.60	.000	0.79	13.81	.000	0.79	15.92	.000	0.68
LE1	1.91	.058	/	.58	.566	/	1.92	.057	/
LE2	3.32	.001	0.31	6.50	.000	0.43	7.92	.000	0.49
LE3	6.02	.000	0.29	4.12	.000	0.25	8.52	.000	0.42
LE4	1.05	.294	/	6.96	.000	0.38	8.05	.000	0.42
TotalLE	6.98	.000	0.48	9.53	.000	0.63	14.32	.000	0.77
Total E	6.54	.000	0.65	19.23	.000	0.82	22.03	.000	0.91
Score							-14.61	.000	0.62

Notes: effect size of Cohen's d: small = $d \leq 0.2$; medium = $d = 0.5$; large = $d \geq 0.8$ (Cohen, 1988)

Table 3: R Square Change and Sum of Squares for the Resulted Models

Model	R square change	Sum of squares			Mean Square	df
		Regression	Residual	Total		
1	.077	18.08	216.29	234.37	18.08	1
2	.046	28.78	205.59	234.37	14.39	2
3	.035	37.02	197.35	234.37	12.34	3
4	.020	241.857	98.096	339.953	60.464	4
5	.016	247.160	92.793	339.953	49.432	5
6	.013	251.510	88.443	339.953	41.918	6
7	.011	255.172	84.781	339.953	36.453	7
8	.010	258.596	81.357	339.953	32.325	8

Table 4: Multiple Regression Coefficients and Significance of Error Predictors for Draft 2 Scores

Intake of errors		TotalC	TotalE	C1	TotalSS	SS2	LE2	SS6	LE4
Draft 2 score	β	.451	.252	.212	.188	.168	.152	.147	.133
	t	5.31	2.96	2.43	2.37	2.33	2.23	2.21	2.17
	p	.000	.001	.006	.017	.01	.022	.032	.045
	df	1	2	2	3	4	5	6	7
	VIF	1.395	1.395	1.024	1.019	1.017	1.017	1.006	1.006
	Cohen's f^2	.083	.048	.036	.021	.016	.013	.011	.001

Notes: df = degree of freedom
effect size of Cohen's f2: small = f2 $\leq$ .02;medium = f2 = .15; large = f2 $\geq$ .35 (Cohen, 1988)

Self-reported results

Survey results

The mean and standard deviation of each survey item were computed (see Table 5), which shows that the students scored 5.71-6.54 on the Perceptions of Teacher Feedback Questionnaire (PTFQ) items. The five items with the highest means were items 13 (intake of teacher feedback) (mean = 6.54), 14 (acceptability of teacher feedback) (mean = 6.54), 11 (relevance between [main] claims and sup-

porting evidence) (mean = 6.33), 3 (text structure) (mean = 6.33) and 10 (adequacy of evidence) (mean = 6.28). These findings indicate that the students were generally highly positive toward teacher feedback and considered it highly helpful.

Table 5: Self-reported Questionnaire Result (N =127)

Teacher feedback	Mean	Standard Deviation
1. improved my ability to use grammar correctly.	6.05	.999
2. improved my ability to use vocabulary appropriately.	5.94	1.07
3. enhanced my knowledge of the structure of academic English argumentative essays.	6.33	.85
4. improved my ability to state the main arguments clearly in academic English argumentative essays.	6.27	.82
5. improved my ability to state supporting arguments clearly in academic English argumentative essays.	6.24	.92
6. enhanced the logic of arguing for points in my academic English argumentative essays.	6.24	.897
7. improved the coherence and cohesion in my academic English argumentative essays.	5.94	1.03
8. improved my ability to cite properly in academic English argumentative essays.	5.71	1.14
9. improved my ability to use vocabulary formally in academic English argumentative essays.	5.96	1.08
10. improved my ability to argue adequately in academic English argumentative essays.	6.28	.89
11. improved my ability to argue substantially in academic English argumentative essays.	6.33	.94
12. improved my ability to use argument-developing skills in academic English argumentative writing.	6.19	.998
13. was mostly incorporated into my revised draft.	6.54	.76
14. was largely acceptable.	6.54	.74

Interview results

Table 6 summarizes the interviewees' perceptions of teacher feedback. As shown in Table 6, more than 70% of the interviewees considered that teacher feedback was right to the point, specific and comprehensive, correct, authoritative and incisive, although around 27% of them believed it to be untimely and not specific enough.

Table 6: Self-reported perceptions of Teacher Feedback (N =47)

Advantages	Disadvantages
a) Teacher feedback is right to the point (36/76.6%)	a) Teacher feedback is not timely (13/27.2%)
b) Teacher feedback is specific and comprehensive (35/74.5%)	b) Some teacher feedback is not specific enough (11/23.4%)
c) Teacher feedback is correct, authoritative and incisive (33/70.2%)	

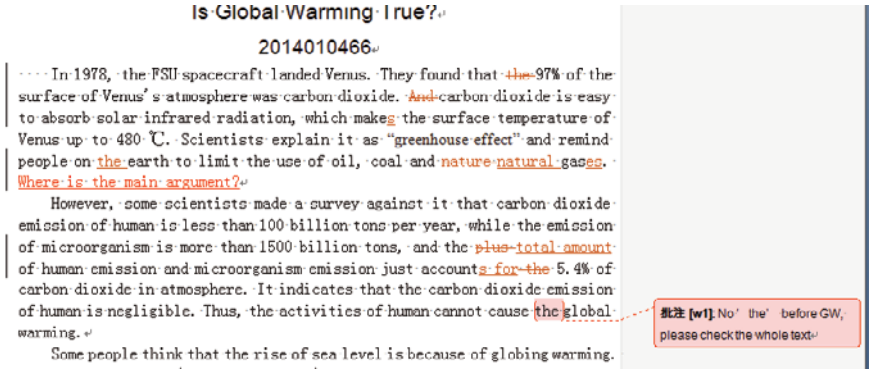
Although teacher feedback was "slow and sometimes hard to understand" (No. 24), to most interviewees, it was "objective and incisive" (No. 25), "fairly proper in every aspect" (No. 40), and provided "necessary guide on how to write better at both paragraph and textual levels and polish the language at the sentence level" (No. 17). Consequently, all the interviewees reported that teacher feedback was helpful to their revisions and were satisfied with it, in that it "makes me fully aware of what I'm poor in in English argumentative writing" (No. 36), "helps me understand what should be argued for and how" (No. 39), and "improves not only my English writing but my argumentative ability in general" (No. 42).

Discussion

Analyses of the data showed that teacher feedback improved the students' abilities to use grammar correctly, use vocabulary appropriately, and write English argumentative essays effectively. Apparently, teacher feedback had a significantly positive effect on the students' composition revisions, similar to or even better than the findings in previous studies (Bitchener et al., 2005; Ferris, 1997; Kang & Han, 2015; Matsumura et al., 2002; Paulus, 1999; Sterna & Solomo, 2006; Vardi, 2009). This might be closely related to the context of the present research: (a) the course instructor spent considerable time on how to write English argumentative essays

(more) effectively, including text structure, paragraph structure, expression of main and supporting arguments, and skills to support arguments. This enabled the participants to be clear of how to write English argumentative essays (more) effectively, (b) the instructor provided rich and specific written feedback on students' Drafts 1, covering content errors, mechanical errors, syntactic and lexical errors, unlike many other studies which focused on mechanical and syntactic errors but ignored content errors (Sterna & Solomo, 2006), as shown in Examples 1 and 2, (c) the instructor had public review and face-to-face conversations with the students about their first drafts and teacher feedback on Drafts 1 in class, clearly explaining what they were poor in and how they could do better, as communication between teachers and students enhances the effectiveness of teacher feedback and composition revisions (Bitchener et al., 2005; , 2004; Hyland, 2003; Price, Handley, Millar & O'Donova, 2010), (d) the students communicated with each other on Drafts 1 and teacher feedback as well in class, and (e) the students were intermediate to advanced EFL learners and were willing to revise their compositions to be better. All these contributed to the students' better understanding of teacher feedback and how it could be used to revise their first drafts. This was because the situation in the present research met the three conditions necessary for students to benefit from feedback identified in Sadler (1989). According to Sadler (1989), students must: (a) be aware of the goal/standard they are expected to achieve, (b) compare their level of writing with the expected goal or standard, and (c) engage in appropriate actions leading to better performance. In other words, effective feedback requires students to have a goal, take actions to achieve the goal, and receive goal-related information about their actions (Wiggins, 2012). In addition, although teacher feedback in the present study was often not timely, it was clear, specific and differentiated, which rendered it effective (Brookhart, 2012).

Example 1:


Is Global Warming True?

2014010466

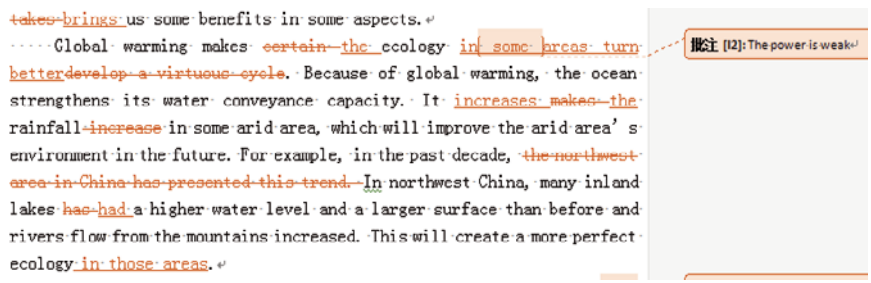
In 1978, the FSU spacecraft landed Venus. They found that ~~the~~ 97% of the surface of Venus's atmosphere was carbon dioxide. ~~And~~ carbon dioxide is easy to absorb solar infrared radiation, which makes the surface temperature of Venus up to 480 ℃. Scientists explain it as "greenhouse effect" and remind people on the earth to limit the use of oil, coal and nature natural gases. Where is the main argument?

However, some scientists made a survey against it that carbon dioxide emission of human is less than 100 billion tons per year, while the emission of microorganism is more than 1500 billion tons, and the ~~plus~~ total amount of human emission and microorganism emission just accounts for ~~the~~ 5.4% of carbon dioxide in atmosphere. It indicates that the carbon dioxide emission of human is negligible. Thus, the activities of human cannot cause the global warming.

Some people think that the rise of sea level is because of globing warming.

批注 [w1]: No' the' before GW, please check the whole text

Example 2:


~~takes~~ brings us some benefits in some aspects.

Global warming makes ~~certain~~ the ecology in some areas turn ~~better~~develop a virtuous cycle. Because of global warming, the ocean strengthens its water conveyance capacity. It increases ~~makes~~ the rainfall ~~increase~~ in some arid area, which will improve the arid area's environment in the future. For example, ~~in the past decade, the northwest area in China has presented this trend.~~ In northwest China, many inland lakes ~~has~~ had a higher water level and a larger surface than before and rivers flow from the mountains increased. This will create a more perfect ecology in those areas.

批注 [l2]: The power is weak

Clearly, the learning context is important for teacher feedback to be effective, which foster communication between the instructor and students, as discussed in Hattie and Timperley (2007). Even so, when providing specific comments on students' texts, it is better for the instructor to scaffold his/her ways of commenting according to individual needs. This is because good teacher feedback should be differentiated as well as timely, clear and specific (Brookhart, 2012). Meanwhile, it is important for students to have more access to English reading and writing. Without adequate practice of and exposure to English reading and writing, teacher feedback alone might not be workable, as found in Pan (2010). Pan's (2010) investigation of the effects of teacher error feedback on students' ability to write accurately showed that the students made progress in the revised versions of their passages but not in their later test essays. The researcher thus suggested that teacher error feedback alone might not facilitate the learning of linguistic information and

that it had better be complemented by sufficient practice in and exposure to English reading and writing to be (more) effective to students' rewrites.

Conclusions

The present mixed-method study examined the effects of teacher feedback on the rewrites of Chinese university learners' English argumentative essays. Analyses of the triangulated data showed:

(1) Syntactic errors occurred the most frequently in Drafts 1 and 2 and teacher feedback, followed by lexical errors and content-related errors respectively, as found in Sheppard (1992). This indicates that language accuracy was still a very important focus of teacher feedback in the present research, similar to that in Hyland (1988, 2003),

(2) Drafts 1 differed significantly from Teacher Feedback in 15 types of errors, both Drafts 1 and Teacher Feedback differed significantly from Drafts 2 in almost all types of errors, Draft 1 scores were statistically significantly lower than Draft 2 scores,

(3) The intake of eight types of errors (TotalC, TotalE, C1, TotalSS, LE2, SS6 and LE4) were powerful predictors of Draft 2 scores. This indicates that content errors were more influential in evaluating students' compositions in the present research, and

(4) The students were generally highly positive toward teacher feedback and considered it highly helpful.

Despite these findings, there are some points worth noting in the present study. First, the participants in the present study were all intermediate-to-advanced learners of English, had been trained on how to write English argumentative essays systematically, and were encouraged and willing to revise their drafts. Coupled with the fact that the university set high demand on their English writing ability, these participants were generally motivated to write better. Students with different backgrounds might not be so motivated to write better, which might negatively affect their attitudes towards and intake of teacher feedback. Second, the instructor in the present research was experienced at academic English writing. She thus was able to provide specific, incisive and expert comments on students' texts at sentence, paragraph and text levels, which made her feedback generally "right to the point" (No. 15). And the students considered teacher feedback "authoritative" (No. 46) and were willing to incorporate it into their revised texts. If the instructor were

different, the effects of teacher feedback on composition revisions might also be different accordingly. Therefore, it is important to research the effects of teacher feedback on composition revisions in varying contexts so that more effective feedback can be provided by faculty and more teacher feedback can be adopted by students, as various factors may work together to mediate the effects of teacher feedback (Kang & Han, 2015; Matsumura et al., 2002). With more findings, it may be possible to train writing instructors to provide more effective feedback, as suggested in Hattie and Timperley (2007), and students to better understand and evaluate teacher feedback (Price et al., 2010).

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Appendix 1: Error Coding & Classification Scheme

Content errors	
C1	Failure to show a controlling idea/More than one controlling idea
C2	Improper topic sentence/no controlling idea/no topic sentence
C3	Failure to provide adequate evidence
C4	Failure to provide substantial evidence
C5	Lack of the power of the argument/Weak arguments or evidence
C6	Failure to keep the necessary consistency in meaning/Inconsistency between the topic sentence and supporting sentences
C7	Fail to achieve paragraph coherence: poor organization/Lack or misuse of transitional markers
C8	Inconsistency between the conclusion and the main argument
C9	Introducing a new topic in Conclusion
Mechanical errors (ME)	
ME1	Misspellings
ME2	Punctuation errors
ME3	Capitalization errors

Syntactical errors (SS)	
SS1	Errors in part of speech (noun/adj./adv./prep./pron./conj./verb)
SS2	Tense errors
SS3	Errors in agreement
SS4	Verb errors
SS5	Adjective/adverb degree errors
SS6	Articles errors
SS7	Errors in the use of plural or singular forms/uncountable nouns
SS8	Case errors
SS9	Errors in mood/auxiliaries (including modal auxiliaries)
SS10	Errors in word order (positive and negative sentence/questions/subordinate clause/adverbs and adjectives)
SS11	Errors in coordinating conjunctions and subordinating conjunctions
SS12	Errors of illogical comparison or ill parallelism
SS13	Errors of sentence fragments/run-on sentence/dangling modifiers
SS14	Errors of mixed or confused expression and sentence structure
SS15	Missing a part of the sentence
SS16	Overuse of a part of the sentence
Lexicall errors (SL)	
LE1	Errors in word formation
LE2	Errors in word choice
LE3	Errors in collocations
LE4	Unclear or incomplete expressions