

Impact of Multiple Feedbacks on Revision Behaviour of Chinese EFL Undergraduates' Argumentative Essay

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Abstract

This study explores the impact of automated writing evaluation (AWE), peer feedback, and teacher feedback on Chinese EFL students' essay revisions. Teacher feedback was the most effective, providing accurate and targeted suggestions. Peer feedback promoted collaboration but lacked depth, while AWE was useful for grammar but not for argument development. A balanced approach combining these methods can enhance writing instruction by leveraging their strengths for better learning outcomes.

Keywords: English argumentative essay; automated writing evaluation (AWE); peer feedback; teacher feedback;

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1.0 Introduction

Feedback, as an important part of formative writing assessment (Endicott, 2022), has been closely related with the proposal of process approach. Ur (2000: 242) defined feedback as "information that is given to the learner about his or her performance of a learning task, usually with the objective of improving this performance". The information can be in the form of marks, grades, verbal or written comments, or suggestions (Yan & Brown, 2021). The feedback providers might be teachers, peers, self or a machine. Feedback is often used to inform students of gaps between their current writing proficiency and the expected level. The most studied forms of feedback include teacher feedback, peer feedback, and AWE (Cunningham et al., 2022). Feedback has long played the role of the link between the learner's language output and input, the purpose of which is clear, aiming to remind EFL (English as a Foreign Language) learners to realize errors and pay attention to important language information, acquire fresh language expressions through interaction, and provide emotional sharing and support. This study aims to explore the effects of AWE, peer feedback, and teacher feedback on the revision of undergraduates' English argumentative essays.

2.0 Literature Review

Teachers are the actual operators of foreign language teaching, so teacher feedback has always been the main source of feedback for learners' English writing. Teacher feedback is generally considered authoritative, targeted and helpful for revising or improving writing.

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For example, Xu (2021) used exploratory factor analysis to examine the internal structure of questionnaires and to verify whether they both produced the expected results. The teacher written feedback points in the draft of 311 college students and the corresponding student revisions were checked. The results showed that the feedback focus and feedback strategy had a significant effect on the revision.

Due to the time-consuming and labor-intensive nature of writing feedback, researchers proposed the peer feedback theory based on Vygotsky's ZPD theory to reduce the burden on teachers. According to this theory, peers can interact, share knowledge and learning experiences, which can effectively improve their learning efficiency and cultivate as well as stimulate their autonomous learning ability. Therefore, it is necessary to conduct peer feedback. For example, in Alsehibany's (2021) study, Chinese college student' views on peer feedback were investigated and it has been found that students were willing to provide feedback on each other's English compositions. However, peer feedback mainly focused on grammar and vocabulary but rarely involved the writing at the discourse level. Cui, Schunn and Gai (2022) carried out a comparative study of revision effectiveness between peer feedback and teacher feedback. They found that peer feedback was quite useful but could not replace teacher feedback. Teacher feedback was more general and aimed at the overall revision of the essay, while peer feedback paid more attention to specific details. The researchers therefore suggested combining teacher feedback and peer feedback.

Besides, the rising trend of applying technology to writing feedback to reduce the burden of teachers has gradually aroused the attention of scholars and triggered corresponding research. Sun and Fan's study (2022) showed that students who received AWE improved significantly in their writing performance. They divided participants into two groups, one experimental group including 39 students who received AWE feedback, while the control group of 34 students received only teacher feedback. The results showed that students spoke highly of AWE and could revise their essays according to the feedback provided. Wilson, J., et al. (2024) investigated student writers' perceptions of AWE and concluded that most of the students' attitudes towards the usability of AWE are positive. The results of their study also reinforced that the integration of AWE and human feedback in the EFL writing classroom would achieve better effect.

Although there have been many studies on feedback, few studies have combined more than two forms of feedback (Link et al., 2020). In fact, the literature shows that various forms of writing feedback have different focuses and their own advantages and disadvantages. Different forms of feedback can cover various needs in writing, stimulate students' writing interests, and thus better improve students' writing proficiency. Therefore, this study uses a mixed methods approach to study and identify the effects of three forms of feedback: AWE, peer feedback and teacher feedback, on the revision of Chinese EFL undergraduates' English argumentative essays, which will provide new insights into feedback integration. The research questions that guided the study are:

- (1) What are the similarities and differences of AWE, peer and teacher feedback on the English argumentative essays of Chinese EFL undergraduates?
- (2) What are the effects of the three different forms of feedback (AWE, peer and teacher feedback) on the revision of Chinese undergraduates' English argumentative essays?

3.0 Methodology

3.1 Research Background

This study was conducted in an ordinary university in Shanghai. The university attaches great importance to English writing, especially argumentative English writing, and requires students to take a compulsory College English writing course. The participants of this study are intermediate and advanced English learners and have all taken the "College English Argumentative Writing" course. In this course, the teacher gives feedback from three aspects: sentence, paragraph and overall structure, guides peer review, and recommends students to use the PiGai.com (hereinafter referred to as AWE). Finally, students were required to revise original drafts according to different feedbacks.

3.2 Participants of the Study

A total 127 participants (102 male students and 25 female students) filled out the questionnaires, and 47 of them participated in the semi-structured interviews. Their age range was 19 - 26 years old, with an average age of 19.42 years (standard deviation = 1.30). Among them, 95 were engineering students (74.8%), 14 were science students (11%), 12 were humanities and social science students (9.4%), and 6 students with other majors (4.7%).

3.3 Source of Data and Research Instruments

The data collection consisted of the following: questionnaires, interviews, original argumentative essays, three types of feedback, revised drafts based on different feedbacks, and the scores of each draft. This study focuses on the results of the questionnaires and interviews.

A 7-point Likert scale questionnaire with 42 items, were related to the effects of AWE, peer feedback, and teacher feedback on college students' English argumentative essay revision. These items involve grammar, vocabulary, structure, viewpoints, logic, citation, argumentation, and coherence in the revision process of argumentative essays.

The semi-structured interview questions were designed according to the objectives of the study, involving students' views on the effects of the three types of feedback, their preferences and how these feedbacks helped during the revision process.

3.4 Data Collection and Analysis

The participants of this study had experienced all three types of feedback. Each participant wrote an argumentative essay on global warming and revised the original draft according to the feedback received. After the revision process, they filled out the questionnaire. Among them, 47 students participated in the subsequent semi-structured interviews. Each interview lasted about 15 minutes, was conducted in Chinese and was recorded. The interview recordings were transcribed, coded and analysed. They were then classified using content analysis method. The quantitative data was analysed using SPSS.

4.0 Findings

4.1 Quantitative Results

The mean values of AWE ranged from 3.94 to 5.56 (Table 1). The five items with the highest mean values involved grammar (Item 1, mean = 5.56), vocabulary (Item 2, mean = 5.54), recognition of feedback (Item 13, mean = 5.24), absorption (Item 14, mean = 5.20), and formal language use (Item 9, mean = 5.08), and the mean values of other items were around 4. The mean values of peer feedback ranged from 4.63 to 5.42. Among them, the five items with the highest mean values involved recognition of feedback (Item 13, mean = 5.42), absorption (Item 14, mean = 5.33), relevance of argumentation and thesis (Item 11, mean = 5.29), article structure (Item 3, mean = 5.28), and logic of argumentation (Item 6, mean = 5.26). The mean values of teacher feedback ranged from 5.71 to 6.54. Among them, the five items with the highest mean values involved recognition of this feedback (Item 13, mean = 6.54), absorption (Item 14, mean = 6.54), relevance of argumentation and thesis (Item 11, mean = 6.33), structure (Item 3, mean = 6.33), and adequacy of argumentation (Item 10, mean = 6.28).

Table1 Results of questionnaire (N=127)

Items	AWE feedback		Peer feedback		Teacher feedback	
	M	SD	M	SD	M	SD
1. Use grammar correctly.	5.56	1.21	4.93	1.11	6.05	0.999
2. Use vocabulary appropriately.	5.54	1.17	4.87	1.16	5.94	1.007
3. Grasp of the article structure of English argumentative essays.	4.06	1.46	5.28	1.15	6.33	0.85
4. Express viewpoints clearly when writing English argumentative essays.	3.95	1.43	5.22	1.18	6.27	0.82
5. Express sub-points clearly when writing English argumentative essays.	3.94	1.50	5.24	1.07	6.24	0.92
6. The logic of my argumentation.	3.94	1.46	5.26	1.03	6.24	0.897
7. The cohesion and coherence in English argumentative essay writing.	4.38	1.47	5.01	1.14	5.94	1.03
8. Quote appropriately in writing.	4.06	1.58	4.67	1.17	5.71	1.14
9. Use formal language in English argumentative essay writing.	5.08	1.19	4.63	1.23	5.96	1.08
10. Fully argue when writing English argumentative essays.	4.02	1.48	5.10	1.16	6.28	0.89
11. The relevance between argumentation and argument in English argumentative essay writing.	3.97	1.55	5.29	1.12	6.33	0.94
12. Apply writing skills of English argumentative essays.	4.25	1.45	4.97	1.27	6.19	0.998
13. Accept most of the opinions put forward by this kind of feedback.	5.24	1.29	5.42	1.09	6.54	0.74
14. My revised essay has absorbed most of the opinions of this kind of feedback.	5.20	1.35	5.33	1.18	6.54	0.76

As shown in Table 1, the mean values of peer feedback were lower than those of AWE in Items 1, 2, and 9, and the mean values of other items were higher than those of AWE. The mean values of teacher feedback were significantly higher than those of AWE and peer feedback. As shown in Table 2, there were mostly significant differences between them (there was no significant difference between AWE and peer feedback in Items 13 and 14, that is, the effect of teacher feedback on the revision of students' argumentative essays was significantly higher than that of AWE (moderate difference in Items 1 and 2, and large difference values in other items) and peer feedback (large difference values in all items).

Table2 Paired t-test results(p=0. 05)

Items	AWE & Peer feedback			AWE & Teacher feedback			Peer & Teacher feedback		
	t	p	d	t	p	d	t	p	d
1	5.06	0.000	0.543	-4.13	0.000	-0.442	-11.00	0.000	-1.06
2	5.03	0.000	0.575	-3.39	0.001	-0.357	-9.87	0.000	-0.959
3	-8.99	0.000	-0.928	-15.96	0.000	-1.900	-10.95	0.000	-1.038
4	-9.57	0.000	-0.969	-17.10	0.000	-1.990	-10.29	0.000	-1.033
5	-9.30	0.000	-0.998	-15.81	0.000	-1.848	-9.28	0.000	-1.002
6	-9.14	0.000	-1.045	-16.09	0.000	-1.898	-10.84	0.000	-1.015
7	-4.23	0.000	-0.481	-10.99	0.000	-1.229	-8.39	0.000	-0.856
8	-4.30	0.000	-0.439	-11.73	0.000	-1.198	-10.18	0.000	-0.900

9	3.40	0.000	0.372	-7.57	0.000	-0.774	-11.56	0.000	-1.149
10	-7.26	0.000	-0.812	-15.87	0.000	-1.851	-12.87	0.000	-1.141
11	-8.61	0.000	-0.976	-15.26	0.000	-1.841	-10.50	0.000	-1.006
12	-4.98	0.000	-0.528	-13.67	0.000	-1.559	-9.89	0.000	-1.068
13	-1.36	0.177	/	-11.43	0.000	-1.236	-12.16	0.000	-1.202
14	-1.01	0.316	/	-11.41	0.000	-1.223	-11.95	0.000	-1.219

* Range of Cohen's difference value (d): small = $d \leq 0.2$; medium = $d = 0.5$; large = $d \geq 0.8$.

4.2 Qualitative Findings

4.2.1. Similarities and differences among three types of feedback

Students' perceptions can be summarized as: AWE "can effectively identify vocabulary and grammatical errors", "can detect grammatical sentence errors in essays that are difficult to detect". However, AWE "has almost no evaluation of the content", "cannot point out logical problems", and "misjudgment".

In contrast, the participants reported that peer feedback has many advantages. For example, "It is more casual, and the frequent communication helps understand the feedback." Peer review can "point out logical problems", "provide new way of thinking, and can find many deficiencies in structure." Moreover, "recognize one's own mistakes by reviewing peers' writings." However, "because of different language proficiency, it is likely to be not so precise", "it is difficult to put forward specific revision suggestions", and "many problems cannot be found."

For most participants, teacher feedback is "objective in evaluation and incisive", "detailed, comprehensive and appropriate", and "can provide accurate guidance on the level of writing skills, and can also help optimize the language expression." However, teacher feedback is slower, and due to limited time, "there exist insufficient communication among us."

The qualitative findings indicated (as shown in Table 3) that the participants believed that all three types of feedback helped improve their writing.

Table 3 Similarities and differences of three kinds of feedback (N = 47).

	AWE feedback	Peer feedback	Teacher feedback
Similarities	a) All of them are helpful to improve argumentative writing to a certain extent (41/87. 2%), b) All of them have corrected basic errors such as grammar and vocabulary (31/65. 96%), c) All of them have identified the good and problematic areas in the composition and put forward suggestions. (22/46. 8%).		
Differences	a) Different effects (42/89. 4%) b) Different focuses (35/74. 5%), c) Different attitude (20/42. 6%), d) Different meticulousness. (15/31. 9%), e) Different response speed (13/27. 7%). f) Different levels of interactions (10/21. 3%). a) Focus on grammar and vocabulary, b) Faster	a) Focus on argumentation, b) More specific, c) More interaction	a) More responsible, b) More precise, c) Best effect

The differences among the three types of feedback are concentrated in several aspects such as focus, seriousness, meticulousness, feedback speed, interaction degree, and effect. "The focuses are different. Peer review focuses on finding article techniques. PiGai.com focuses on mastering grammar and words. Teacher feedback is more holistic and more professional regarding the writing techniques." "Peer review helps me have a further understanding of the coherence and sequence arrangement of the article. The AWE improves the sentence patterns. Teacher feedback enables me to understand how to write a good argumentative essay."

4.2.2. The effects of different types of feedback on the revision of argumentative essays

Table 4 summarizes students' views on the effects of different feedback on the revision. "AWE helped me correct errors such as vocabulary spelling and grammar. Moreover, in the past, I often sent it to friends and look for errors together, which was time-consuming and laborious. PiGai.com is much more convenient." Twenty-nine students (61.7%) believe that AWE is helpful, especially in terms of vocabulary and grammar. However, because "AWE is mostly about correcting word usage, but not very helpful for writing techniques", 15 students (31.9%) think that AWE is slightly helpful, and two students think it is not helpful because "AWE often misjudges."

Table 4 The effects of different feedbacks on the revision. (N = 47).

	AWE	Peer feedback	Teacher feedback
Not helpful	2/4. 3%	3/6. 4%	0
Slightly helpful	15/31. 9%	10/21. 3%	0
Helpful	29/61. 7%	30/63. 8%	26/55. 3%
Very helpful	1/2. 1%	4/8. 5%	21/44. 7%

Thirty-four students (72.3%) believe that peer assessment is helpful or even very helpful for the revision. Some representative statements are: "Peer review can help us realize mistakes and learn to think and write from the perspective of readers." At the same time, some students felt that peer review is only slightly helpful or not helpful for the revision because their peers' "opinions seem not

in-depth enough and not very persuasive” or the opinions put forward are “all relatively simple, and it is difficult to obtain specific revision suggestions”. All interviewed students believe that teacher feedback “Greatly help to know what should be argued.”

Therefore, in terms of effect, 44 students (93.6%) believe that teacher feedback > peer feedback > AWE, 2 students (4.3%) believe that teacher feedback > AWE > peer feedback, and 1 student (2.1%) believes that peer feedback > teacher feedback > AWE.

For the above reasons, 42 students (89.4%) are relatively satisfied with AWE; all students are relatively satisfied with peer review, and are satisfied or relatively satisfied with teacher feedback (see Table 5). As the interviewees said, through peer review, “I can see others’ views and avoid ‘arrogance due to ignorance’.” “Teacher feedback can let me clearly recognize the shortcomings.”

Table 5 Satisfaction with different types of feedback. (N = 47).

	AWE feedback	Peer feedback	Teacher feedback
Dissatisfied	2/4. 3%	3/6. 4%	0
Basically satisfied	15/31. 9%	10/21. 3%	0
Satisfied	29/61. 7%	30/63. 8%	26/55. 3%
Very Satisfied	1/2. 1%	4/8. 5%	21/44. 7%

At the same time, 44 (93.6%), 2 (4.3%), and 1 (2.1%) student respectively stated that they like teacher feedback, peer feedback, and AWE the most. In addition to the advantages listed, some representative reasons are: “The text structure and argumentation process are relatively challenging in writing process, and more advice and guidance are needed.” “Teacher will tell you what does not need to be argued, which cannot explain the essence of the problem, and which need to be further expanded. These have been of great help for continued revision.”

5.0 Discussion

The results show that the three types of feedback each have their own advantages and disadvantages. AWE can quickly and accurately find grammatical and vocabulary errors and provide suggestions, but it often misjudges due to being “too rigid”, and there is almost no suggestion for the content, and it cannot make suggestions on the logic and the use of evidence. Peer review can help to learn from each other’s strengths, reflect on one’s own shortcomings, and examine one’s own writing from a new perspective. However, because peers are “limited in proficiency” and “lack experience”, they cannot “see all the problems” and “cannot give more profound and specific suggestions.” Although teacher feedback is slow and sometimes not detailed enough, it is comprehensive, objective and incisive. This is basically consistent with the research results of Zhang and Cheng (2021). Nevertheless, all three types of feedback have given helpful suggestions, which is basically consistent with the existing research results.

At the same time, the results of this study show that teacher feedback is significantly more helpful in revising and is more accepted by the participants than peer review or AWE due to being “specific, in place, meticulous, and pertinent” (in Table 1, the standard deviation of teacher feedback is the smallest, and the standard deviation of AWE is the largest). This further confirms the research results of Zhang (2020). At the same time, this also shows that teacher feedback is irreplaceable (Dewi & Roki’ah, 2023). But as Ferris and Hedgcock (2023) found, feedback that combines content and grammar is beneficial to students’ writing. Writing instructors can use AWE and peer review to supplement teacher feedback. This can not only “reduce the burden on teachers” but also “provide students with different perspectives.” To improve the quality of AWE, the technology supporting team needs to work on reducing its misjudgment and adding feedback standards for content. To improve the effect of peer feedback, students first need to improve their English language proficiency, because it is an important factor affecting feedback (Chen et al., 2022). Secondly, they need peer review training so to “give valuable suggestions”. If conditions permit, teachers can give corresponding writing feedback and organize peer review training according to students’ personality, cognition, and emotional characteristics. Thus, the feedback can be more easily understood and accepted by learners and be more conducive to improving their English writing proficiency.

6.0 Conclusion& Recommendations

This study uses a mixed-method approach to investigate the effects of AWE, peer and teacher feedback on college students’ English argumentative writing and revision and has proved that each type of feedback is positive on students wiring improvement. In addition, the participants have also received guidance and training in English argumentative writing and peer review. Therefore, they are able to conduct peer review and have achieved good results. However, if the participant is changed (such as different language proficiency, training experiences, requirements for English writing, etc.), the effects of different feedback and revision may be different. Similarly, different teachers will also affect differently on students’ revision. Therefore, further research will enhance understanding of the effects of different feedback and thus better help students write English argumentative essays. In any case, it is necessary to combine different feedback to provide comprehensive, immediate and diversified feedback to maximize the writing quality. Given that all the research results come from students’ self-reports, a comparative analysis of actual writing is needed and this will also be the focus of future research.

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Paper Contribution to Related Field of Study

This research contributes to the field of EFL writing research in China. Specifically, it highlights the role of AWE and human feedback in reducing the workload of writing instructors, offering new insights for developing students' writing proficiency, boosting their confidence in learning writing and advancing their communicative skills in interaction .

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