THE EFFECTS OF ERROR FEEDBACK IN SECOND LANGUAGE

WRITING

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Abstract: There has been controversy as to whether error feedback helps L2 students improve the accuracy and overall quality of their writing. Most studies on error correction in L2 writing classes show that students receiving error feedback from teachers improve in accuracy over time. However, it has not been adequately examined how explicit error feedback should be in order to help students selfedit their texts. The paper reports a quasi-experimental classroom study investigating 12 university ESL students' abilities to self-edit their writing across two feedback conditions: (1) direct correction with the correct form provided by the teacher; (2) indirect correction indicating that an error exists but without providing the correction. The students were randomly divided into two groups: Group A and Group B. Data were collected from the two drafts of the first essay and the first draft of the second essay. Instances of errors were then identified in students' drafts and classified into three categories: morphological errors, semantic errors, and syntactic errors. Error ratios (the number of errors counted divided by the number of words written) were calculated and compared between drafts and between groups. Results show that both types of feedback helped students selfedit their texts. Although direct feedback reduced students' errors in the immediate draft, it did not improve students' accuracy in a different paper. Indirect feedback helped the students reduce more morphological errors than semantic errors. Survey results show that students show a strong preference for underlining and description. Overall results imply that providing corrective feedback on students' writing is not a sufficient way to improve students' accuracy in writing. Some mini-lessons or workshops focusing on different types of errors or aspects of grammar are necessary to improve students' ability to self-edit.

INTRODUCTION

Error treatment is one of the key issues in second language writing faced by both teachers and researchers. There has been controversy as to whether error feedback helps L2 students to improve the accuracy and overall quality of their writing (Kepner, 1991; Truscott, 1999; Ferris, 1999). Truscott

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(1996, 1999, 2007) held a strong view against error correction. He argued that all forms of error correction of L2 student writing are not only ineffective but also harmful and should be abandoned. He further emphasized that although most L2 students clearly desire grammar correction, teachers should not give it to them. Ferris (1999) rebutted this claim by arguing that Truscott had overlooked some positive research evidence on the effects of grammar correction. With the existing data (Kepner, 1991; Chandler; Hyland, 2003; Bitchener, 2008), it is still too early to have a conclusive answer to the question of whether error correction is effective in improving the accuracy of L2 writing in the long term for learners of all levels. Therefore, L2 writing teachers simply cannot dismiss students' strong desire for error feedback.

REVIEW OF THE LITERATURE

The debate has continued for over ten years on whether giving corrective feedback to L2 writers can improve their written accuracy. Truscott (1996, 1999, 2004, 2007) dismissed error correction as not only useless but also harmful to the accuracy in students' writing. Truscott's claim is supported by earlier research which suggested that correction had little or no effects on student writing (Kepner, 1991; Sheppard, 1992). In Kepner's (1991) experiment, students were provided with two types of written feedback: message-related comments and surface error-corrections. It was found that the consistent use of L2 teachers' written error-corrections as a primary medium of written feedback was ineffective in L2 writing, whether for higherproficiency or for lower-proficiency learners. In contrast, the consistent use of message-related comments was effective for promoting both overall quality and surface-level accuracy. But the study needs to be examined closely. As surface error-corrections addressed errors only at the sentence level, they naturally did not lead to improvement in the content of student writing. Also, students were not required to produce a new draft incorporate the teachers' corrections. Thus, the effect of error correction was minimized. Instead, message-related comments addressed more of the high-level concerns, thus it helped students improve the content of the writing.

A number of studies on error correction in L2 writing classes have shown that students receiving error feedback from teachers improve in accuracy over time (Hyland, 2003; Chandler, 2003). Hyland (2003) observed six ESL writers on a full-time 14-week English proficiency program course at a university. It was found that feedback focusing on form was used by most of the students in their immediate revisions to their drafts and was highly valued by them. The case studies suggest that some language errors may be "treatable" through feedback. With experimental and control group data, Chandler (2003) showed that teachers' feedback on students' grammatical and lexical errors resulted in a significant improvement in both accuracy and fluency in subsequent writing of the same type over the same semester. This finding disproves Truscott's (1999) claim on the negative effect of error correction on fluency.

To further explore the issue of error correction in second language writing, recent research has focused on which types of error correction are effective in treating which types of errors (Ferris & Roberts, 2001; Chandler, 2003; Bitchener et al 2005; Bitchener, 2008). A distinction has been made between direct and indirect feedback. Ferris (2002) defined direct feedback as one "when an instructor provides the correct linguistic form for students (word, morpheme, phrase, rewritten sentence, deleted word[s] or morpheme[s]" (p.19). Indirect feedback, on the other hand, "occurs when the teacher indicates that an error has been made but leaves it to the student writer to solve the problem and correct the error" (Ferris, 2002, p.19). Indirect feedback takes the form of underlining and coding (or description) of the errors. Ferris and Roberts (2001) compared these two types of indirect feedback. They found that the group receiving feedback of both underlining and coding did slightly better in revising their grammatical errors than the one receiving only underling as the feedback. Both groups were significantly more successful in revising errors than the control group receiving no feedback. The results were challenged by Chandler (2003), who compared four types of feedback: direct correction, underlining with description, description only, and underlining only. In her study, Chandler found both direct correction and simple underlining to be more effective than describing the type of error in reducing long-term error. She also noted that direct correction worked best for producing accurate revision. There was no significant difference between direct correction and underlining of errors. The survey results indicated that students prefer direct correction because it is the fastest and easiest way to revise their grammatical errors. But students felt that they learned more from self-correction when the errors were only underlined. Although both studies made distinctions on different types of errors, neither addressed the effect of feedback on the specific types of errors.

Two recent studies comparing different strategies on specific types of errors have provided more evidence in support of written corrective feedback. Bitchener et al (2005) compared two types of feedback groups (a combination of direct written feedback and oral conference feedback and direct written feedback only) with the control group (no corrective feedback) on three types of errors (prepositions, the past simple tense, and the definite article). The study found a significant effect of the combination of written and oral feedback in the use of the past simple tense and the definite article in new pieces of writing. However, no effect was found in the use of prepositions. The findings were confirmed by a recent study by Bitchener (2008) who compared three types of direct corrective feedback: a combination of direct feedback, written and oral meta-linguistic explanation; direct feedback and written metalinguistic explanation; and direct feedback only. It was found that the accuracy of students who received feedback in the immediate post-test outperformed those in the control group who received no corrective feedback in the use of the referential indefinite "a" and referential definite "the". More importantly, this level of performance was retained 2 months later. Results of the two studies indicate positive effects of written corrective feedback on particular linguistic features in student writing. These two studies set good examples for investigating the effects of different feedback types on particular types of errors.

Given the conflicting results on the effects of different feedback types, we can hardly conclude that one feedback strategy would work for all grammatical errors in student writing. It is thus important to investigate various error categories that are targeted. The present study follows this line of research by examining direct correction and indirect feedback in second language writing, with an emphasis on how different types of grammatical errors can be treated. Three questions are addressed in this preliminary study:

- How do ESL students respond to direct and indirect feedback provided on a previous draft when writing another draft of the same essay? Do students make fewer errors in drafting a new essay?
- 2. Do direct and indirect feedback have different effects on the three error types (morphological, semantic, and syntactic)?
- 3. What type of feedback do students prefer?

METHOD

Participants

The study was conducted in a southwestern university in the United States. Twelve students participated the study. They were all first-year students enrolled in ENGL108, a three-unit composition class for first-year ESL students. The section was taught by the teacher-researcher. Demographic information collected from the students indicates that the vast majority (92%) had come to the U.S. for a bachelor's degree and only one of them was immigrant student. The largest first language group [3 students] were Spanish L1 speakers, while all others spoke different languages [Chinese, Cantonese, Romanian, Japanese, Korean, Arabic, Thai, German]. The length of learning English as a second language varied from 3 to 15 years [average 7.9 y.], and the length of residence in the United States ranged from 0.5 to 7 years [average 3.5 y]. Generally, participants with a longer residency in the United States had learned English for a shorter time and vice versa.

Setting

The goal of ENGL108 is to improve the academic writing ability of ESL students. All entering international students must take a placement examination at the beginning of each semester. The results of this exam place them in ENGL106, 107, or 108. Most students start in 107, the prerequisite for 108. The class under study met for 50 minutes three times a week over 16 weeks. During the 40 hours of total class time, selections from an anthology ("The University Book – An Anthology of Writings from the University of XX") were read and discussed to point out rhetorical strategies of good writing. The major emphasis of the course is a student research project. Students were required to conduct library research on their chosen topic, so research

strategies, evaluation of sources, and argumentation methods were discussed in detail. There were three major assignments in the semester. The first was a rhetorical analysis paper, in which students chose an article from the anthology and analyzed the rhetorical strategies used by the author. The second one was an argumentative essay which required research. The third one was a reflective essay, in which students reflected on their own writing or on themselves as writers.

The genres were certainly new and difficult for most of these students as they confessed in their final reflective essays. Various writing strategies were demonstrated in class from a process approach to writing, such as brainstorming and outlining. Multiple drafts were required, and peer reviewing and individual conferencing with the teacher were conducted before final drafts were collected. However, to reduce the effect of variables other than teacher feedback in the study, no peer-review session was conducted between the first and second drafts, from which the data were collected.

The teacher provided both content and error feedback on the first drafts. Additionally, a brief positive end comment was given, followed by suggestions on the content of the writing. Although more specific marginal comments were given on the content, asking for more detail or clarification, most of the teacher feedback was on errors in grammar and usage.

Only the final draft was graded based on both quantity and quality, including revisions over drafts, content, accuracy, and the fluency of the writing. No deductions were made for the errors on the rough drafts.

Design and measures

The participants were randomly divided into two groups: Group A and Group B, with six students in each. Data were collected from the two drafts of the first essay and the first draft of the second essay. The teacher provided feedback on the first draft and students in Group A received direct correction with the errors underlined and corrected. Students in Group B received indirect correction with the errors only underlined. Both groups were then required to submit a second draft after revising the errors. The first draft of the second essay was collected four weeks after the second draft of the first essay was collected. As Trustcott (1996, 1999, 2004) and Ferris (1999, 2004) point out, the efficacy of error feedback can only be assessed by measuring accuracy on new texts. The dependent measure in this study was a calculation of error rate on the three drafts. As the text length of the drafts vary, a measure of errors per 1000 words was calculated (total number of errors/total number of words X1000).

At the end of the semester, a questionnaire was given to the students to find out students' preference on the type of corrective feedback. Although they were provided correction or underlining on the first essay, they received underlining and/or description on the latter essays.

Procedures: marking of errors

Three categories of errors were marked as described below (examples were taken from participants' writing in the study):

Morphological errors: all errors in verb tense or form; plural or possessive ending incorrect, omitted, or unnecessary; subject-verb agreement errors; article or other determiner incorrect, omitted, or unnecessary. For example:

- Most of the companies will try to make the other company's product looks (look) useless and making their products looks (look) better than the others'.
- Korean popular culture has been a noteworthy phenomenon throughout the Asia.

Semantic errors: errors in word choice, including preposition and pronoun errors; omitted words or phrases, unnecessary words or phrases. Spelling errors included only if the (apparent) misspelling resulted in an actual English word. For example:

- Many people in Asia started showing interest in a country where (which) was just freed from economic troubles and not widely known as an attractive country.
- Although it has lots of negative points, the Korean popular culture is effective in Asia because it can be described ^ (as) the first step for Asian universalism and globalization.

Syntactic errors: errors in sentence/clause boundaries (run-ons, fragments, comma splices), word order, other ungrammatical sentence constructions. For example:

- Korean popular culture has been a noteworthy phenomenon throughout the Asia which came from music, drama and movie industry.
- On the other hand it gives the audience the chance to see different viewpoints and it is up to the audience in what they want to believe in. Ferris and Roberts (2001) used five categories (verb errors, noun ending errors, article errors, wrong word, sentence structure). And Chandler (2003) used 23 types of errors. I used only three categories to avoid overlapping and to achieve higher interrater-reliability on categorization. It was important to have the same teacher-researcher marking all errors in the same way. Another rater, a college ESL teacher and native speaker of English, marked 10% of the papers in order to calculate interrater agreement. This was calculated by dividing the number of errors marked by only one rater by the total number of errors (an average of each rater's count), as Chandler (2003) did. The percentage agreement on the overall number of errors was 96%. The percentage agreement was 90% on the number of morphological errors, 75%

on that of semantic errors, 44% on that of syntactic errors. Due to the low percentage agreement, the syntactic errors were not analyzed as useful data.

RESULTS

Tables 1 and 2 show the results of the error ratio in two drafts of the first essay and the first draft of the second essay, i.e. number of errors for each 1000 words of text. Chandler (2003) used the number of errors for each 100 words of text. In this study, the different categories of errors were calculated and since the error number per category tended to be small (less than five for each 100 words of text), the number of errors for each 1000 words of text was used for the ease of comparison and discussion.

To answer the first research question, a comparison was first conducted between the two drafts of Essay 1 to see how students treated the two types of feedback. Group A received direct correction with errors marked and corrected. The total number of errors went from an average of 50.3 per 1000 words on the first draft to 39.2 on the second draft. There was a reduction of 11.1 errors per 1000 words in total. The number of morphological errors went from 17.4 per 1000 words on the first draft to 13.6 on the second draft. The average reduction was 3.8 morphological errors per 1000 words. The number of semantic errors went from 20.7 per 1000 words on the first draft to 15.3 on the second draft and the average reduction was 5.4 per 1000 words.

Group B received only underlining as indirect correction on the grammatical errors. The total number of errors went from an average of 42.1 per 1000 words to 34.3, with a reduction of 7.8 errors per 1000 words. The number of morphological errors went from an average of 16.1 per 1000 words to 12.3, with a reduction of 3.8 errors. The number of semantic errors went from an average of 15.7 per 1000 words to 13.8, with a reduction of only 1.9 errors.

Table 1: Means and Standard Deviation on Errors per 1000 Words in Two Drafts for Essay 1.

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		Group A				Group B			
		MOR	SEM	SYN	total	MOR	SEM	SYN	total
Essay1	Mean	17.4	20.7	12.2	50.3	16.1	15.7	10.3	42.1
Draft 1	SD	5.5	4.6	4.7	4.8	4.2	5.8	5.7	5.1
Essay1	Mean	13.6	15.3	10.3	39.2	12.3	13.8	8.2	34.3
Draft 2	SD	4.3	5.4	4.5	4.7	3.9	4.7	4.1	4.6
Change	Mean	3.8	5.4	1.9	11.1	3.8	1.9	2.1	7.8

In order to see the effects of the two types of correction on a new piece of writing, comparison was also conducted between the first draft of Essay 1 and the first draft of Essay 2 (shown in Table 2). The latter was collected four weeks after the second draft of Essay 1 was collected. For Group A, the total number of errors went from an average of 50.3 per 1000 words to 40.1, with a decrease of 10.2 errors per 1000 words. The number of morphological errors went from a mean of 17.4 to 12.7, with a reduction of 4.7 errors per 1000 words. The number of semantic errors went from 20.7 to 19.0, with a slight decrease of 1.7 errors per 1000 words.

For Group B, the total number of errors went from an average of 42.1 per 1000 words to 27.5, with a reduction of 14.6 errors per 1000 words. The number of morphological errors went from an average of 16.1 to 8.9, with a reduction of 7.2 errors per 1000 words. The number of semantic errors went from 15.7 to 13.7, with a slight reduction of 2.0 errors per 1000 words.

Table 2: Means and Standard Deviation on Errors per 1000 Words in Draft 1 of Essay 1 and Draft 1 of Essay 2.

	-	Group A				Group B			
		MOR	SEM	SYN	total	MOR	SEM	SYN	total
Essay1	Mean	17.4	20.7	12.2	50.3	16.1	15.7	10.3	42.1
Draft 1	SD	5.5	4.6	4.7	4.8	4.2	5.8	5.7	5.1
Essay2	Mean	12.7	19.0	8.4	40.1	8.9	13.7	4.9	27.5
Draft 1	SD	12.2	8.5	6.1	10.1	4.1	4.8	3.8	5.3
Change	Mean	4.7	1.7	3.8	10.2	7.2	2.0	5.4	14.6

To answer the second question on the effects of the corrective feedback on different error types, the two types of errors (morphological and semantic) made by the two groups were compared. Figure 1 shows the mean morphological errors in the three drafts. For both groups, there was a gradual decrease of morphological errors from the first to the second draft of Essay 1, and to the first draft of Essay 2. In a new piece of writing (the first draft of Essay 2), Group B, which received underlining only, outperformed Group A which received direct error correction by producing fewer morphological errors.

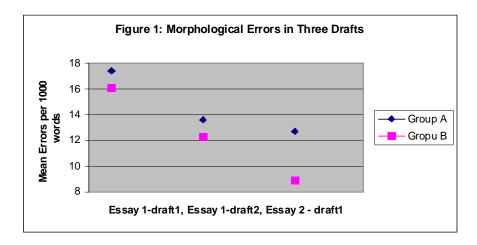
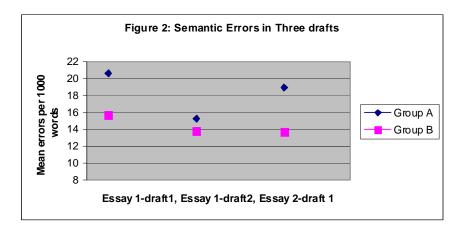


Figure 2 shows the mean semantic errors in the three drafts. For both groups the number of semantic errors was reduced in the second drafts of the same essay after they receive feedback on the first drafts. However, this reduction did not continue in the first draft of Essay Two. Without receiving any feedback, Group A made more semantic errors in the new piece of writing than in the second draft of Essay 1 while Group B made almost the same amount of errors as in the second draft of Essay 1. The reduction of this type of errors from the first draft of Essay 1 to that of Essay 2 for the two groups is very close (1.7 and 2.0 per 1000 words respectively).



The third question is answered by the survey results (Table 3), which show that students preferred underlining and the description of errors over correction and pure underlining, although they were not provided with the combination of underling and description. In their explanation of the choices, students expressed that underlining and description could help them

understand what kind of error they made. Direct correction was indicated by the students to be one of the easiest ways to fix errors since the correct forms were provided.

Table 3: Students' responses (n=12) End-of-year questionnaire (adapted from Chandler, 2003, p.288)

1. Which way was easiest to correct errors in your writing?							
Correction	Underline	and	Describe	Underline			
	Describe						
5	5		0	2			
2. Which way was easiest to see what kind of errors you made?							
Correction	Underline	and	Describe	Underline			
	Describe						
3	6		2	1			
	_						
3. Which way did	•						
Correction	Underline	and	Describe	Underline			
_	Describe		_	_			
3	9		0	0			
4. Which way helped you most to write correctly in future?							
			-	TT 1 1'			
Correction	Underline	and	Describe	Underline			
2	Describe		2	1			
3	6		2	1			
5. Which way did you like most?							
•	•	and	Dagariba	Undonlina			
Correction	Underline	and	Describe	Underline			
2	Describe 7		0	2			
3	1		0	2			

DISCUSSION

The results of the study demonstrate that both groups can correct most of the errors marked when writing a different draft of the same essay. It is not surprising that the amount of reduction of errors for Group A was greater than that of Group B. Group A received direct correction as the feedback with all the errors marked and corrected. In their revision, students in Group A could use the correct form provided by the teacher. In contrast, Group B received only underlining as the feedback and students had to correct the errors themselves. Clearly, some of the correction was not successful. This is especially true for the semantic errors [errors in word choice]. Even when students knew they had made a wrong word choice, they may not have found the right word to replace it all the time. Morphological errors were easier to correct in that students could choose the right morphological form for different situations, such as the past tense and subject-predicate agreement, as long as they knew the rules. This explains why the amount of reduction of morphological errors for both groups was the same while that of semantic errors for Group A was greater than for Group B. For both groups, the second draft still contained a considerable amount of errors. Even for Group A, there were not significantly fewer errors in the second draft than the first draft, even with all the correct forms provided. This is because the second draft was not simply a duplicate of the first draft with the errors corrected. Students were required to extend their first draft and revise some of the content based on the content feedback provided by the teacher. When the students wrote more, there were more chances for them to make errors. The results support Chandler's (2003) assertion that direct correction works best for producing accurate revisions. The findings are also similar to those of Ferris and Roberts (2001) in that indirect correction did not seem to have an immediate advantage over direct correction. But the effect on writing accuracy needs to be evaluated by examining a different piece of writing.

The results of the second comparison demonstrate the effect of corrective feedback on a new piece of writing. It was shown that rewriting following a teacher's direct corrections resulted in almost the same amount of errors on a subsequent assignment even though students made fewer errors on revisions of the same assignment. In contrast, rewriting based on a teacher's underlining led to fewer errors on a subsequent assignment. This shows some advantage of underlining as a strategy for corrective feedback. Students who received underlining only in the last assignment had to work out correction themselves, and this process likely improved their self-editing ability. They were thus more conscious of the grammatical errors when writing a new essay. This is similar to Chandler's (2003) finding that "underlining group" outperformed the "description group" and "underlining-and-description group".

Regarding different types of errors, the two types of errors feedback had slightly different effects. For both groups, morphological errors decreased from Essay 1 to Essay 2, showing some effects of error feedback. Group B outperformed Group A in Essay 2 in terms of word choice. This indicates that students in Group B paid some attention to word choice when they wrote a different essay. Although this awareness cannot be completely attributed to the effect of indirect correction they received on the first essay, the process of finding out the correct form by themselves in the revision of the first essay seemed to help students internalize the rules related to the morphological They could then avoid similar errors in the subsequent writing. Semantic errors decreased from the first to the second draft of Essay 1 as well, but they increased from Essay 1 to Essay 2 for Group A. For Group B, the number of semantic errors was almost the same in Essay 1 and Essay 2. This shows almost no effect of the corrective feedback. As discussed earlier, semantic errors are not rule-based, are thus harder to be treated than morphological errors. Though students could correct some of the semantic errors marked by the teacher in revision, they made new errors when drafting a new piece of writing. The increased number of semantic errors can be explained by the difference of genre in the two essays. The first essay was a rhetorical analysis, in which students analyzed a selected text. The second essay was an argumentative essay based on library research. Students were asked to make their own arguments and reasoning with the evidence found in the sources. In short, the second essay was longer and more complicated, and as a result, students were more likely to make errors. The result of this comparison collaborates with Bitchener et al's (2005) finding that the corrective feedback resulted in greater accuracy in terms of the simple past tense and the definite article (errors in these two categories are marked as morphological in this study) while no effect was found in the use of prepositions (errors in this category are marked as semantic in the study).

The results of the survey indicate that most students preferred underlining and description of the errors in their writing because they wanted to know what kind of errors they made. This explains the minor difference in the number of errors in the drafts after the feedback was provided. The finding contradicts Lee's (2004) survey results showing that students in a secondary school in Hong Kong preferred teacher's direct correction for all errors. Direct correction is one of the easiest ways to correct errors because the correct forms are provided, but students may not understand why they made those errors and tended to make the same errors when they wrote different sentences. Underlining and description can provide information on that, so the students can figure out the correct forms by themselves. Pure underlining is sometimes confusing because students may make wrong guesses about their errors. In the process of marking errors, the researcher noticed that students sometimes took a semantic error as a morphological error, or a morphological error as a syntactic error. Compared with L2 writers in secondary school, college students in this study showed more responsibility in their own writing. They knew that they would be independent writers after finishing this writing course and would, therefore, have to rely on themselves to fix their errors in their future writings.

CONCLUSION

In order to contribute to the need for further research on the value of corrective feedback to L2 writers on different error types (Ferris & Roberts, 2001; Chandler, 2003; Bitchener et al 2005; Bitchener, 2008), the present study investigated the extent to which two types of feedback on three error categories helped L2 writers improve the accuracy in new pieces of writing. It was found that indirect correction enabled them to make fewer morphological errors with greater accuracy in a new piece of writing than direct correction did. This finding adds to a growing body of research that has investigated the effect of different feedback types on writing accuracy.

The findings of the study, however, are limited by the small sample size and short treatment time. Only preliminary conclusions can be drawn from the comparison of students' performances on two assignments. It is necessary and important to observe the effects of corrective feedback more longitudinally. Moreover, current research focuses mainly on written feedback. Oral conference feedback can be incorporated with written feedback to achieve better effects, as examined by Bitchener (2008). Future research can investigate different feedback strategies targeting more specific types of errors which are common in L2 writings, such as subject-verb agreement errors, sentence fragments and run-on sentences. Along with previous studies mentioned, this study suggests that some errors are more difficult to treat than others; therefore, providing corrective feedback on students' writing is not a sufficient way by itself to improve students' writing accuracy. Some minilessons or workshops focusing on different types of errors or aspects of grammar can improve students' ability to self-edit.

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