A typology of written corrective feedback types

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As a basis for a systematic approach to investigating the effects of written corrective feedback, this article presents a typology of the different types available to teachers and researchers. The typology distinguishes two sets of options relating to (1) strategies for providing feedback (for example, direct, indirect, or metalinguistic feedback) and (2) the students' response to the feedback (for example, revision required, attention to correction only required). Each option is illustrated and relevant research examined.

Introduction

How teachers correct second language (L2) students' writing is a topic that has attracted enormous interest from researchers and teachers alike. However, as a recent review of feedback on L2 students' writing (Hyland and Hyland 2006) makes clear, despite all the research there are still no clear answers to the questions researchers have addressed. Hyland and Hyland observed:

> while feedback is a central aspect of L2 writing programs across the world, the research literature has not been equivocally positive about its role in L2 development, and teachers often have a sense they are not making use of its full potential. (p. 83)

Guenette (2007) pointed out that one of the reasons for the uncertainty lies in the failure to design corrective feedback (CF) studies that systematically investigate different types of written CF and control for external variables that are likely to impact on how effective the CF is. One way forward, then, might be for researchers and teachers to systematically identify the various options available for correcting students' writing as a basis for both designing future studies and for pedagogical decision making.

In this article I would like to make a start on this agenda by examining the various options (both familiar and less familiar) for correcting students' written work. I will focus on just one kind of correction—the correction of linguistic errors—and consider studies that have examined the different options by way of illustrating how they have been investigated and the limitations in the research to date. I will argue that identifying the options in a systematic way is essential for both determining whether written CF is effective and, if it is, what kind of CF is most effective.

A typology of options for correcting linguistic errors

Table 1 presents a typology of teacher options for correcting linguistic errors in students' written work.[1] These options have been identified by inspecting both teacher handbooks (for example, Ur 1996) and published empirical

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studies of written feedback (for example, Robb, Ross, and Shortreed 1986; Chandler 2003; Ferris 2006).

A basic distinction needs to be made between the options involved in (1) the teacher's provision of CF and (2) the students' response to this feedback. Clearly, CF can only have an impact if students attend to it. Thus, any account of CF must consider both aspects.

Type of CF	Description	Studies
A Strategies for providing CF		
1 Direct CF	The teacher provides the student with the correct form.	e.g. Lalande (1982) and Robb *et al.* (1986).
2 Indirect CF	The teacher indicates that an error exists but does not provide the correction.	
a Indicating + locating the error	This takes the form of underlining and use of cursors to show omissions in the student's text.	Various studies have employed indirect correction of this kind (e.g. Ferris and Roberts 2001; Chandler 2003).
b Indication only	This takes the form of an indication in the margin that an error or errors have taken place in a line of text.	Fewer studies have employed this method (e.g. Robb *et al.* 1986).
3 Metalinguistic CF	The teacher provides some kind of metalinguistic clue as to the nature of the error.	
a Use of error code	Teacher writes codes in the margin (e.g. ww = wrong word; art = article).	Various studies have examined the effects of using error codes (e.g. Lalande 1982; Ferris and Roberts 2001; Chandler 2003).
b Brief grammatical descriptions	Teacher numbers errors in text and writes a grammatical description for each numbered error at the bottom of the text.	Sheen (2007) compared the effects of direct CF and direct CF + metalinguistic CF.
4 The focus of the feedback	This concerns whether the teacher attempts to correct all (or most) of the students' errors or selects one or two specific types of errors to correct. This distinction can be applied to each of the above options.	Most studies have investigated unfocused CF (e.g. Chandler 2003; Ferris 2006). Sheen (2007), drawing on traditions in SLA studies of CF, investigated focused CF.
a Unfocused CF	Unfocused CF is extensive.	
b Focused CF	Focused CF is intensive.	
5 Electronic feedback	The teacher indicates an error and provides a hyperlink to a concordance file that provides examples of correct usage.	Milton (2006).
6 Reformulation	This consists of a native speaker's reworking of the students' entire text to make the language seem as native-like as possible while keeping the content of the original intact.	Sachs and Polio (2007) compared the effects of direct correction and reformulation on students' revisions of their text.

B Students' response to feedback	For feedback to work for either redrafting or language learning, learners need to attend to the corrections. Various alternatives exist for achieving this.	
1 Revision required		A number of studies have examined the effect of requiring students to edit their errors (e.g. Ferris and Roberts 2001; Chandler 2003). Sheen (2007) asked students to study corrections.
2 No revisions required		
a Students asked to study corrections		A number of studies have examined what students do when just given back their text with revisions (e.g. Sachs and Polio 2007).
b Students just given back corrected text		No study has systematically investigated different approaches to revision.

TABLE 1
Types of teacher written CF

Strategies for providing CF

Five basic strategies for providing written CF can be identified, with a number of options associated with some of them.

1 Direct CF

In the case of *direct CF* the teacher provides the student with the correct form. As Ferris (op. cit.) notes, this can take a number of different forms—crossing out an unnecessary word, phrase, or morpheme, inserting a missing word or morpheme, and writing the correct form above or near to the erroneous form. Example 1 illustrates direct correction.

a a the

A dog stole ∧bone from ∧butcher. He escaped with having ∧bone. When the dog was

over a a saw a

going ~~through~~ ∧bridge over ~~the~~ river he ~~found~~ dog in the river.

EXAMPLE 1

Direct CF has the advantage that it provides learners with explicit guidance about how to correct their errors. This is clearly desirable if learners do not know what the correct form is (i.e. are not capable of self-correcting the error). Ferris and Roberts (2001) suggest direct CF is probably better than indirect CF with student writers of low levels of proficiency. However, a disadvantage is that it requires minimal processing on the part of the learner and thus, although it might help them to produce the correct form when they revise their writing, it may not contribute to long-term learning. However, a recent study by Sheen (2007) suggests that direct CF can be effective in promoting acquisition of specific grammatical features.

2 Indirect CF

Indirect CF involves indicating that the student has made an error without actually correcting it. This can be done by underlining the errors or using cursors to show omissions in the student's text (as in the example below) or by placing a cross in the margin next to the line containing the error. In effect, this involves deciding whether or not to show the precise location of the error.

> A dog stole X bone from X butcher. He escaped with XhavingX X bone. When the dog was going XthroughX X bridge over XtheX river he found X dog in the river.
> X = missing word
> X __X = wrong word

EXAMPLE 2

As already noted, indirect feedback is often preferred to direct feedback on the grounds that it caters to 'guided learning and problem solving' (Lalande 1982) and encourages students to reflect about linguistic forms. For these reasons, it is considered more likely to lead to long-term learning (Ferris and Roberts op. cit.). The results of studies that have investigated this claim, however, are very mixed. Some studies (for example, Lalande op. cit.) suggest that indirect feedback is indeed more effective in enabling students to correct their errors but others (for example, Ferris and Roberts' own study) found no difference between direct and indirect CF. No study to date has compared the effects of these two indirect types of CF on whether they have any effect on accuracy in new pieces of writing.

In accordance with the general line of argument by Ferris and Roberts, it might be claimed that indirect feedback where the exact location of errors is not shown might be more effective than indirect feedback where the location of the errors is shown (as illustrated in Example 2) as students would have to engage in deeper processing. Robb *et al.* (op. cit.) investigated four types of feedback including direct feedback and indirect feedback where the number of errors was given in each line of text. They reported no significant difference. Lee (1997), however, specifically compared the two types of indirect correction and found that learners were better able to correct errors that were indicated and located than errors that were just indicated by a check in the margin. However, Lee did not consider long-term gains.

3 Metalinguistic CF[2]

Metalinguistic CF involves providing learners with some form of explicit comment about the nature of the errors they have made. The explicit comment can take two forms. By far the most common is the use of error codes. These consist of abbreviated labels for different kinds of errors. The labels can be placed over the location of the error in the text or in the margin. In the latter case, the exact location of the error may or may not be shown. In the former, the student has to work out the correction needed from the clue provided while in the latter the student needs to first locate the error and then work out the correction. Examples of both are provided below. A major issue in error codes is how delicate the categories should be. For example,

should there be a single category for 'articles' (as in the examples below) or should there be separate categories for 'definite' and 'indefinite articles'? Most of the error codes used in research and language pedagogy employ relatively broad categories.

A number of studies have compared using error codes with other types of written CF. Lalande (op. cit.) reported that a group of learners of L2 German that received correction using error codes improved in accuracy in subsequent writing whereas a group receiving direct correction made more errors. However, the difference between the two groups was not statistically significant. Robb *et al.* (op. cit.) included an error codes treatment in their study but found it no more effective than any of the other three types of CF they investigated (i.e. direct feedback and two kinds of indirect feedback). Ferris (op. cit.) reported that error codes helped students to improve their accuracy over time in only two of the four categories of error she investigated. Longitudinal comparisons between the number of errors in students' first and fourth compositions showed improvement in total errors and verb errors but not in noun errors, article errors, lexical errors, or sentence errors. Ferris and Roberts (op. cit.) found that error codes did assist the students to self-edit their writing but no more so than indirect feedback. Overall, then, there is very limited evidence to show that error codes help writers to achieve greater accuracy over time and it would also seem that they are no more effective than other types of CF in assisting self-editing.

art.	art.	WW art.
A dog stole bone from butcher. He escaped with having bone. When the dog was		
prep.	art.	art.
going through bridge over the river he found dog in the river.		

EXAMPLE 3

Art. x 3; WW	A dog stole bone from butcher. He escaped with having bone.
Prep.; art.	When the dog was going through bridge over the river he
Art.	found dog in the river.

EXAMPLE 4

The second type of metalinguistic CF consists of providing students with metalinguistic explanations of their errors. An example is provided below. This is far less common, perhaps because it is much more time consuming than using error codes and also because it calls for the teacher to possess sufficient metalinguistic knowledge to be able to write clear and accurate explanations for a variety of errors. Sheen (op. cit.) compared direct and metalinguistic CF, finding that both were effective in increasing accuracy in the students' use of articles in subsequent writing completed immediately after the CF treatment. Interestingly, the metalinguistic CF also proved more effective than the direct CF in the long term (i.e. in a new piece of writing completed two weeks after the treatment).

(1) (2) (3)

A dog stole bone from butcher. He escaped with having bone. When the dog was

(4) (5) (6)

going through bridge over the river he found dog in the river.

(1), (2), (5), and (6)—you need 'a' before the noun when a person or thing is mentioned for the first time.

(3)—you need 'the' before the noun when the person or thing has been mentioned previously.

(4)—you need 'over' when you go across the surface of something; you use 'through' when you go inside something (e.g. 'go through the forest').

EXAMPLE 5

4 Focused versus unfocused CF

Teachers can elect to correct all of the students' errors, in which case the CF is unfocused. Alternatively they can select specific error types for correction. For example, in the above examples the teacher could have chosen to correct just article errors. The distinction between unfocused and focused CF applies to all of the previously discussed options.

Processing corrections is likely to be more difficult in unfocused CF as the learner is required to attend to a variety of errors and thus is unlikely to be able to reflect much on each error. In this respect, focused CF may prove more effective as the learner is able to examine multiple corrections of a single error and thus obtain the rich evidence they need to both understand why what they wrote was erroneous and to acquire the correct form. If learning is dependent on attention to form, then it is reasonable to assume that the more intensive the attention, the more likely the correction is to lead to learning. Focused metalinguistic CF may be especially helpful in this respect as it promotes not just attention but also understanding of the nature of the error. However, unfocused CF has the advantage of addressing a range of errors, so while it might not be as effective in assisting learners to acquire specific features as focused CF in the short term, it may prove superior in the long run.

The bulk of the CF studies completed to date have investigated unfocused CF. In Sheen's study (op. cit), the CF was of the focused kind (i.e. it addressed errors in the use of articles for first and second mention) and, as already noted, that proved effective in promoting more accurate language use of this feature. However, to date, there have been no studies comparing the relative effects of focused and unfocused CF. This is clearly a distinction in need of further study.

5 Electronic feedback

Extensive corpora of written English (either carefully constructed or simply available via search engines such as Google) can be exploited to provide students with assistance in their writing. This assistance can be accessed by means of software programs while students write or it can be utilized as

a form of feedback. I am concerned only with the latter here. Electronic resources provide learners with the means where they can appropriate the usage of more experienced writers.

Milton (2006) describes an approach based on a software program called *Mark My Words*. This provides teachers with an electronic store of approximately 100 recurrent lexico-grammatical and style errors that he found occurred frequently in the writing of Chinese students. The store also provides a brief comment on each error and with links to resources showing the correct form. The program enables the teacher to use the electronic store to insert brief metalinguistic comments into a student's text. The text is then returned to the student who then consults the electronic resources to compare his/her usage with that illustrated in the samples of language made available. This assists the student to self-correct. The same program also generates an error log for each piece of writing, thus drawing students' attention to recurrent linguistic problems. Milton does not report a study of the effectiveness of this method of correcting student errors but provides anecdotal evidence that it can work. He describes receiving a ten-page document from a student, identifying 100 errors using *Mark My Words*, and then asking the student to consult the electronic resources and revise the text himself. Milton reported that the student's revisions were successful.

There are some obvious advantages to this option. One is that it removes the need for the teacher to be the arbiter of what constitutes a correct form. Teachers' intuitions about grammatical correctness are often fallible; arguably, a usage-based approach is more reliable. It can also be argued that the key to effective error correction is identifying the learner's textual intention. While the approach advocated by Milton still lays the onus on the teacher to identify errors, it allows the learners to locate the corrections that are most appropriate for their own textual intentions and so encourages student independence.

6 Reformulation

The final option we will consider is similar to the use of concordances in that it aims to provide learners with a resource that they can use to correct their errors but places the responsibility for the final decision about whether and how to correct on the students themselves.

A standard procedure in error analysis is reconstruction. That is, in order to identify an error, the analyst (and the teacher) needs to construct a native-speaker version of that part of the text containing an error. The idea for reformulation as a technique for providing feedback to learners grew out of this procedure. It involves a native-speaker rewriting the student's text in such a way as 'to preserve as many of the writer's ideas as possible, while expressing them in his/her own words so as to make the piece sound native-like' (Cohen 1989: 4). The writer then revises by deciding which of the native-speaker's reconstructions to accept. In essence, then, reformulation involves two options 'direct correction' + 'revision' but it differs from how these options are typically executed in that the whole of the student's text is reformulated thus laying the burden on the learner to identify the specific changes that have been made.

Sachs and Polio (2007) report an interesting study that compared reformulation with direct error correction. The main difference between these two options was 'a matter of presentation and task demands and was not related to the kinds of errors that were corrected'. The difference in presentation is illustrated in the example below.

Original version:	As he was jogging, his tammy was shaked.
Reformulation:	As he was jogging, his tummy was shaking.
	tummy shaking
Error correction:	As he was jogging his ~~tammy~~ was ~~shaked~~.

EXAMPLE 6 (from Sachs and Polio 2007: 78)

The students were shown their reformulated/corrected stories and asked to study them for 20 minutes and take notes if they wanted. Then, one day later, they were given a clean sheet of paper and asked to revise their stories but without access to either the reformulated/corrected texts or the notes they had taken. Both the groups that received reformulation and corrections outperformed the control group. However, the corrections group produced more accurate revisions than the reformulation group. As Sachs and Polio point out, reformulation is a technique that is not restricted to assisting students with their surface level linguistic errors; it is also designed to draw attention to higher order stylistic and organizational errors. Thus, their study should not be used to dismiss the use of reformulation as a technique for teaching written composition. Nevertheless, it would seem from this study that it does not constitute the most effective way of assisting students to eliminate linguistic errors when they revise.

The student's response to the feedback

An essential feature of CF is how the student responds to the corrections provided. The various options are also shown in Table 1.

The student's response frequently takes the form of revision of the initial draft—an important stage in process writing. Much of the research that has investigated written CF (for example, Ferris and Roberts op. cit.) has centred on whether students are able to make use of the feedback they receive when they revise.

One approach has been to describe and classify the types of revisions that students make. Ferris (op. cit.) for example, identified a number of revision categories in the redrafts of 146 ESL students' essays. Her taxonomy is reproduced in Table 2. Overall, Ferris found that 80.4 per cent of the errors subject to CF were eliminated in the redrafted compositions by correcting the error, by deleting the text containing the error, or by making a correct substitution. 9.9 per cent of the errors were incorrectly revised while in a further 9.9 per cent no change was made.

Label	Description
Error corrected	Error corrected per teacher's marking.
Incorrect change	Change was made but incorrect.
No change	No response to the correction was apparent.
Deleted text	Student deleted marked text rather than attempting correction.
Substitution, correct	Student invented a correction that was not suggested by the teacher's marking.
Substitution, incorrect	Student incorrectly made a change that was not suggested by teacher's marking.
Teacher-induced error	Incomplete or misleading teacher marking caused by student error.
Averted erroneous teacher marking	Student corrected error despite incomplete or erroneous teacher marking.

TABLE 2
Student revision analysis categories (from Ferris 2006)

This study (along with a number of others) suggests that CF is effective in helping students to eliminate errors in redrafts of their writing. However, from the perspective of L2 learning, such research is of limited interest, as Truscott (1996) pointed out, as showing that CF helps students to correct their errors in second drafts tells us nothing about whether they are able to use them in new pieces of writing.

Revision can also be viewed as *part* of written CF (i.e. as another option). That is to say, students may or may not be given the opportunity to revise their writing following one of the other types of feedback. It then becomes possible to investigate whether providing the opportunity to revise assists learning. Chandler (op. cit.) compared indirect CF plus the opportunity to revise with indirect CF where there was no opportunity to revise. Chandler reported that accuracy improved from the first to the fifth piece of writing significantly more in the group that was required to correct their errors than in the group that just received indication of their errors. Also, this increase in accuracy was not accompanied by any decrease in fluency. Chandler noted that 'what seems to be a crucial factor . . . is having the students do something with the error correction besides simply receiving it' (p. 293). However, this study had no control group and thus did not address whether revising errors leads to acquisition of the correct forms.

There is also the issue of what students actually do with the corrections when they are not required to carry out any revisions. Students may simply be given back their corrected texts (and then simply ignore the corrections) or they may be required to pay close attention to them. In the Chandler study, the no-revision group was simply handed back their corrected writing. It is possible, however, that if they had been asked to carefully examine the corrections, they would have shown similar improvements in accuracy to the group that revised following the CF. Clearly, corrections can only work if writers notice and process them. Fazio's (2001) study of primary-level children is a reminder that some learners often fail to attend to

linguistic corrections. In this longitudinal study, the pupils became less accurate in a number of grammatical areas over time!

The question of whether to require students to simply attend to the corrections or to revise based on them raises an interesting theoretical issue. Is it the additional 'input' that the corrections afford or the 'output' that occurs when students revise that is important for learning? Guenette (op. cit.) argued that students 'have to notice the feedback and be given ample opportunities to apply the corrections' (p. 52). But students may succeed in noticing corrections even if they are not required to revise their writing. Here again there is no research that has addressed this issue.

Using the typology

There is an obvious need for carefully designed studies to further investigate the effects of written CF in general and of different types of CF. A typology such as the one outlined in this article provides a classification of one of the key variables in written CF studies—the type of CF. It makes it possible for researchers to conduct research that systematically examines the effect of distinct types and combinations of CF. Of course the type of CF is only one of several variables influencing the effectiveness of written CF. Other variables identified by Guenette (op. cit.) are the nature of the population being studied (in particular the nature of their L2 proficiency), the nature of the writing activities that the students undertake, the kinds of errors that are corrected, and whether or not there is any incentive for the students to write accurately.

The typology is not only valuable for the design of experimental studies. It can also assist descriptive research. Such research examines such issues as how teachers carry out CF and how students respond to corrections. While descriptive studies are typically data-driven, they can benefit from examining to what extent the categories in the typology accurately reflect actual practice. They can also serve to refine the categories.

Like Guenette, I want to emphasize that there is no 'corrective feedback recipe'. Given the complexity of CF, it is unlikely that even better designed studies will provide clear-cut answers to the kinds of questions raised in the Introduction to this article. The search for the 'best' way to do written CF may in fact be fundamentally mistaken if it is accepted that CF needs to take account of the specific institutional, classroom, and task contexts. As Hyland and Hyland (op. cit.) commented 'it may be . . . that what is effective feedback for one student in one setting is less so in another' (p. 88). Indeed, a sociocultural perspective on CF would emphasize the need to adjust the type of feedback offered to learners to suit their stage of development although how this can be achieved practically remains unclear in the case of *written* CF where there is often limited opportunity to negotiate the feedback with individual learners.

The typology might also be of assistance to teachers. Teacher handbooks such as Ur's (op. cit.) wisely do not attempt to prescribe how teachers should do written CF. Instead, they invite teachers to develop their own correction policy by raising a number of key issues. What is important, however, is for teachers to have a clear and explicit account of the options available to them, an understanding of the rationale for each option, and some knowledge of the research findings (uncertain as these are). The typology provides

teachers with a basis for examining the options and for systematically experimenting with them in their own teaching.

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Notes

1 I have chosen to focus on the teacher's role in CF. Thus, I have not included in my typology options involving peer feedback. This should not be construed as suggesting that teacher feedback is to be preferred to peer feedback.

2 There is an obvious difference between simply indicating an error (how I have chosen to define indirect CF) and providing students with metalinguistic information about their errors. Lumping 'indicating errors' and 'error codes' into a single category, as some researchers have done, is misleading and unhelpful.

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