

## Review Article

# The Case Against Grammar Correction in L2 Writing Classes

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The paper argues that grammar correction in L2 writing classes should be abandoned, for the following reasons: (a) Substantial research shows it to be ineffective and none shows it to be helpful in any interesting sense; (b) for both theoretical and practical reasons, one can expect it to be ineffective; and (c) it has harmful effects. I also consider and reject a number of arguments previously offered in favor of grammar correction.

In second language (L2) writing courses, grammar correction is something of an institution. Nearly all L2 writing teachers do it in one form or another; nearly everyone who writes on the subject recommends it in one form or another. Teachers and researchers hold a widespread, deeply entrenched belief that grammar correction should, even must, be part of writing courses.

But on what do they base this belief? The literature contains

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few serious attempts to justify the practice on empirical grounds; those that exist pay scant attention to the substantial research that has found correction ineffective or harmful. Most writing on the subject simply takes the value of grammar correction for granted. Thus, authors often assume the practice is effective, without offering any argument or citing any evidence. When someone cites evidence, it generally consists of only one or two token sources, with no critical assessment of them.

Researchers have similarly failed to look critically at the nature of the correction process. Work on the subject rarely considers the many practical problems involved in grammar correction and largely ignores a number of theoretical issues which, if taken seriously, would cast doubt on its effectiveness.

Finally, researchers have paid insufficient attention to the side effects of grammar correction, such as its effect on students' attitudes, or the way it absorbs time and energy in writing classes. Commentators seem to feel that we cannot eliminate such problems through limited adjustments in the correction process, so we simply have to live with them. They assume that grammar correction must be used in writing classes, regardless of the problems it creates; this assumption is very rarely discussed seriously.

Grammar correction is too important to be dealt with so casually. We have an obligation to our students and to our profession: to go beyond this uncritical acceptance and to look more seriously at the evidence, at the logic of correction, and at the problems it creates. This will mean seeing the subject through the eyes of a skeptic, which is what I propose to do.

'My thesis is that grammar correction has no place in writing courses and should be abandoned. The reasons are: (a) Research evidence shows that grammar correction is ineffective; (b) this lack of effectiveness is exactly what should be expected, given the nature of the correction process and the nature of language learning; (c) grammar correction has significant harmful effects; and (d) the various arguments offered for continuing it all lack merit.

Before proceeding with the argument, though, I need to clarify a few points. First, I do not deny the value of grammatical accuracy; the issue is whether or not grammar correction can contribute to its development. Nor do I generally reject feedback as a teaching method; I will have very little to say about responses to the content, organization, or clarity of a composition, for instance, and I certainly will not suggest that such responses are misguided. Finally, the key term needs some clarification: By *grammar correction*, I mean correction of grammatical errors for the purpose of improving a student's ability to write accurately. This correction comes in many different forms, but for present purposes such distinctions have little significance, simply because there is no reason to think any of the variations should be used in writing classes, and there is considerable reason to think they are all misguided.

### Grammar Correction Does Not Work

A large number of studies have attempted to show the effects (or lack of effects) of grammar correction. Their general logic is straightforward: The researchers compare the writing of students who have received grammar correction over a period of time with that of students who have not. If correction is important for learning, then the former students should be better writers, on average, than the latter. If the abilities of the two groups do not differ, then correction is not helpful. The third possibility, of course, is that the uncorrected students will write better than the corrected ~~ones~~—in which case, correction is apparently harmful.

#### *Evidence Against Grammar Correction*

To begin with, there is a great deal of evidence regarding first language (L1) writing. Knoblauch and Brannon (1981) and Hillocks (1986) have done extensive reviews of this research (see also Krashen, 1984; Leki, 1990). They looked at many studies, including research done with various types of students and many

different types of grammar correction. They found that correction had little or no effect on students' writing ability. It made no difference who the students were, how many mistakes were corrected, which mistakes were corrected, how detailed the comments were, or in what form they were presented. The corrections had no effect. The conclusion for LI, then, is clear: Correction is not helpful.

These studies on LI learning certainly do not prove that correction is ineffective in L2 language learning; conceivably a technique that is not helpful in the one case could be helpful in the other. But they certainly provide strong grounds for doubt; in view of their results, it would be folly to assume, without strong evidence, that correction is useful in L2 learning. In other words, the effect of the LI research is to place the burden of proof firmly on those who would claim that correction is helpful.

So I turn now to the research on L2 learning. Can a case be made that correction works? Clearly and unambiguously not. In fact, the L2 evidence fits very well with that from the LI studies; correction is clearly ineffective.

Hendrickson (1978) reviewed the available research and concluded that little was known. He claimed that learners should be corrected, but the work he reviewed did not support such a view. His own work (1978, and in more detail in Hendrickson, 1981) indicated that correcting all errors was no better than correcting only those that produced communicative problems: Neither method had any significant effects. A few more recent papers (Krashen, 1992; Leki, 1990; VanPatten, 1986a, 1986b) have briefly reviewed the evidence, all of them reaching the same conclusion: Grammar correction is ineffective.

Looking at the rest of the literature, one has no difficulty understanding these pessimistic assessments. Cohen and Bobbins (1976), for instance, examining the written corrections received by three students in an advanced ESL course, concluded that "the corrections did not seem to have any significant effect on students' errors" (p. 50). They found that the corrections were not well done; they believed that this was the real cause of students' problems,

but offered no reason that better-done correction would have helped.

Semke's (1984) large, 10-week study of German students produced similar results. She divided the students into four groups, each receiving a different type of feedback. Group 1 received only comments on content, with no concern for errors; Group 2 received only comments on errors. Group 3 received both types of comments, and Group 4 had their errors pointed out and were expected to make corrections themselves. Semke found no significant differences among the groups in the accuracy of their writing. In addition, Group 1 (comments on content only) was significantly better than all the others on fluency and on a cloze test. Thus, feedback on errors was not only unhelpful, but also harmful to learners. Those who received comments on content plus correction were significantly inferior to those who received only comments on content. Semke also found Group 4 (self-correction) inferior to all the other groups on fluency—evidence against the use of a technique frequently recommended in the ESL literature (but always with little or no supporting evidence; e.g. Bartram & Walton, 1991; Hendrickson, 1978, 1980; Higgs, 1979; Hyland, 1990; Raimes, 1983).

Grammar correction's futility also showed in a study by Robb, Ross, and Shortreed (1986). They used four very different types of feedback: (a) explicit correction, indicating the errors and the correct forms; (b) the use of a correction code to point out type and location of errors; (c) the use of highlighting to indicate the locations of errors, without any explanation; and (d) a marginal tally of the number of errors in each line, with no indication of what the errors were or where in the line they were located. In all four conditions, students were to rewrite their compositions, making the appropriate changes. At the end of the course, the authors found no significant differences in students' writing ability.

- Robb et al.'s (1986) study could have been made more clear and compelling by the inclusion of a fifth group, which would have received no feedback of any kind. But the negative implications

for grammar correction are reasonably clear nonetheless. For one thing, the amount of information contained in the feedback varied so much among the four groups that one would expect significant differences among them if the information were at all valuable. That there were no differences argues strongly against its having any value. Moreover, the practical difference between the hypothetical fifth group and the actual fourth group would have been small. In fact, Frantzen and Rissel (1987) found that, even when told the exact location of an error, learners usually could not determine exactly what that error was; in view of this finding, it would be extremely surprising if the learners in the fourth group gained any insights from their much more limited information. So one can reasonably treat these learners as a control group. The lack of any contrast between them and the groups that received more informative feedback thus provides good evidence for the ineffectiveness of grammar correction.

More evidence of this ineffectiveness comes from Kepner (1991), who experimented with two forms of feedback in intermediate Spanish as a foreign language (FL) courses. Half the participants received comprehensive correction on sentence-level errors with brief explanations or statements of rules; the other half received comments on content instead, written in the target language. Kepner then checked their sixth assignment, written after 12 weeks of instruction, for grammatical accuracy, as measured by a count of all grammar and vocabulary errors. Kepner checked the quality of the writing's content by measuring the number of "higher-level propositions" it contained. Kepner found no significant differences in accuracy. However, students who had received content-oriented feedback were significantly superior in the measure of content. These results held for both high-verbal-ability and low-verbal-ability students, and there were no significant interactions between the variables. Thus, once again grammar correction was not helpful.

Sheppard (1992) experimented with two different types of feedback in a writing class. One group received comprehensive responses to errors, using a correction code, and discussed their

errors (and nothing else) in conferences with the instructor. For the other group, feedback and conferences dealt exclusively with the content of the students' writing. Thus, if error correction were helpful, the content group should have suffered on measures of grammatical ability. However, Sheppard found no advantage for the error-correction group, the results actually favoring the content group. In accuracy of verb forms, there were no differences between the groups, both improving significantly. For accurate marking of sentence boundaries (through appropriate punctuation), the content group made significant gains, the error group did not, and the difference was significant. Finally, on a measure of the complexity of students' writing—the relative frequency with which they used subordinate clauses—the content group had no significant changes, although the error group got significantly worse (though there was no significant difference *between* the two groups on this measure). Sheppard attributed this latter result to an avoidance strategy on the part of the students who had been frequently corrected—their fear of making mistakes led them to limit the complexity of their writing.

Thus Sheppard's (1992) work resembles that of Semke (1984) and Kepner (1991). Correction was not only unhelpful in these studies but also actually hindered the learning process.

Finally, a few additional studies are worthy of notice. Work by Steinbach, Bereiter, Burtis, and Bertrand (cited in Carroll & Swain, 1993) found that feedback on compositions had no benefits for students' grammar, diction, or mechanics. Similarly, VanPatten (1986b, 1988) described two studies by Dvorak, one covering a full year, in which lack of correction did not affect students' accuracy. Dvorak's research was primarily concerned with oral correction, but apparently covered some written work as well.

*Some Possible Limitations of the Research* \*

The studies discussed above show that the situation for L2 is the same as for L1: Grammar correction in writing courses is not helpful. Any interesting research is subject to alternative inter-

pretations, though. The variable relevant here is the use or nonuse of grammar correction, but a number of other factors could have influenced the results of the experiments. However, all the obvious candidates can be discounted.

First, the results probably cannot be explained by the difference between FL and SL learning, the identity of the target language, or the learners' LI. The studies that found correction ineffective included ESL, EFL, German FL, and Spanish FL; besides, the students' origins and LIs differed widely.

Another factor that can probably be dismissed is the form of correction used. The studies varied between direct techniques (learners given correct forms for each error) and indirect ones (errors pointed out, usually by means of a code, but correct forms not given). In addition, Robb et al. (1986) alone included four different degrees of directness. The case is somewhat less clear for the other major variable of this ~~sort—the~~ difference between comprehensive and selective correction. Most of the studies reviewed here relied on the former, but Hendrickson (1981) used both types and found no difference between them. Also, the LI research described above found comprehensiveness of correction irrelevant. Additional reasons to doubt the value of selective correction will be presented below.

Another explanation of the results is that the correction used in these studies could have had a delayed effect that did not show up during the research. However, available evidence argues against such a view: Robb et al.'s (1986) study, covering mid-April to mid-January, showed no more evidence of beneficial effects than did studies lasting a single semester or a single quarter. Nor did Dvorak's year-long study. Besides the lack of any a priori reasons to expect delayed effects, this (admittedly limited) research makes the possibility of such effects rather remote.

Another possibility: The results were affected by the types of assessment used. However, this argument also has plausibility problems, for several reasons. First, all the studies used actual writing samples from the students (rather than relying on grammar exercises, for instance); so in terms of authenticity (Bachman,

1991; Hoekje & Linnell, 1994; Skehan, 1988,1989) this work fares quite well. Second, they used a variety of measures. For accuracy, these included counts of all grammatical and lexical errors in two studies (plus style in one of them), verb form problems in two others, and an independent measure of sentence boundaries in one. They also frequently included measures of quantity and complexity of writing, and one study added a cloze test. Not one of these measurements found any significant advantages for students whose writing had been corrected. Third, the measures used in some of the studies did find significant differences between groups—always favoring the uncorrected students. Some also found significant gains (and occasionally losses) from pretest to posttest. Clearly, these measures can detect such differences. Thus, that none of them found any significant advantages of any sort for corrected students must be taken seriously.

Similar comments apply to differences in the type of instruction used in the various studies. The authors provided only limited information, but this information suggests substantial variation. In Robb et al.'s (1986) research, most of the class time was devoted to correction practice and sentence-combining. Kepner (1991) described her classes as proficiency-based, with a large concern for personal growth and the development of faith. Sheppard's (1992) students, in addition to extensive writing experience, read two novels and underwent selective grammar instruction (on topics overlapping the points later examined in their writing). Thus, the consistent failure of grammar correction probably cannot be attributed to any particular form of instruction; the studies vary substantially in this regard.

Nor can the results be explained by what was done or not done after corrections were made. In Kepner (1991), students apparently were not required to do anything with the corrections, but rewriting was a requirement for all the students in Robb et al.'s (1986) and Sheppard's (1992) studies. In addition, some of the materials Cohen and Robbins (1976) examined included rewrites, and Semke's (1984) indirect-correction group rewrote all their assignments. (This group showed no advantage in grammatical

ability and was inferior to the uncorrected group on a cloze test and to all the other groups on fluency.) Hendrickson (1981) did not use rewriting, but after each assignment was returned, set aside class time for students to study the corrections they had received.

It is also unlikely that the lack of benefits can be explained by the students' proficiency level or ability. The classes studied ranged from beginning to advanced levels of language proficiency. In addition, Hendrickson (1981) included communicative proficiency as one of his independent variables, and Kepner (1991) included verbal ability; neither found any effect.

Of course, other learner variables could be crucially involved; learners differ from one another in an enormous number of ways and the research discussed here considered very few of them. However, though such a possibility cannot be ruled out, it remains no more than speculation.

However, assume for the sake of argument that learner variables are crucial to the effects of grammar correction: that certain types of students do benefit. A new problem now arises, because the knowledge that such students exist will not be helpful unless instructors can determine exactly who they are. But for now this is not realistic. The (hypothetical) distinction between those who benefit and those who do not could rest on any number of variables, such as gender, age, educational background, aptitude, field-independence, tolerance for ambiguity, anxiety, or any of countless others. It might depend on certain characteristics of the teacher or of the learning environment. It might involve some complex interaction of some or all of these factors, or of these and other, unknown factors. So research cannot identify correction-benefitters now and is highly unlikely to be able to do so in the foreseeable future.<sup>2</sup> Thus, for the practical purpose of evaluating grammar correction in educational settings, it makes no difference whether they exist or not.

Last, and perhaps most interesting, the negative results in these studies could have been due not to problems inherent in correction but rather to bad timing. Researchers investigating naturalistic L2 learning have found clear and consistent orders in

which learners acquire certain grammatical structures; other research has found these same sequences in formal classroom learning situations, in spite of instructional sequences that run counter to them. This raises the possibility that the corrections used in the research described above failed because they did not respect these sequences: Teachers corrected students on grammar points for which they were not yet ready.

The research on developmental sequences originated in the morpheme studies of Dulay and Burt (1973, 1974), Bailey, Madden, and Krashen (1974), and Perkins and Larsen-Freeman (1975). This work has since become the subject of some debate (Dulay, Burt, & Krashen, 1982; Larsen-Freeman, 1976; Larsen-Freeman & Long, 1991; Rosansky, 1976) and therefore cannot be considered conclusive. However, subsequent work on a variety of languages (e.g., Cancino, Rosansky, & Schumann, 1975; Ellis 1984, 1988, 1989; Felix, 1981; Hyltenstam, 1977; Pienemann, 1984, 1989; VanPatten, 1987; Weinert, 1987; Wode, 1984) has left little doubt that developmental sequences are real. This conclusion has met wide acceptance among SLA researchers (e.g., Cook, 1993; Dulay et al., 1982; Ellis, 1990; Harley, 1988; Larsen-Freeman & Long, 1991; Lightbown & Spada, 1993; Littlewood, 1984; VanPatten, 1986b). It signifies, for present purposes, that grammar instruction (or correction) that does not respect these sequences will probably encounter problems.

Thus, the failure of grammar correction in the research could be due to lack of concern with timing. However, the significance of this possibility is limited. There is no distinct evidence that properly timed correction will be effective; the possibility remains hypothetical. In addition, current knowledge of sequences has serious limitations, as well as serious questions about how to apply the research to the classroom. So, researchers might (or might not) need to reexamine the research on grammar correction in light of work on developmental sequences. But the latter does not now make a compelling case that correction can be effective, even in principle. It certainly offers no reason to think that correction can be effective in the classroom now.

*Nonevidence for Grammar Correction*

The discussion of possible limitations on the research has arrived at the same conclusion reached previously: Grammar correction (at least in any form now available) does not work. It is not enough, though, to show that many studies have obtained negative results. A number of additional studies are commonly presented as evidence favoring grammar correction; it is necessary to look at these as well. However, none of them contradict the negative findings described above, primarily because none of them actually address the present issue: Does grammar correction in writing classes make students better writers (better in any sense)?

First, it is not unusual to find vague references to works that seem, in the context of the discussion, to provide evidence that correction works, but actually do not even attempt to do so. Two examples will suffice: Higgs (1979) and Gaudiani (1981). The former is simply a detailed description of Higgs' preferred method of correction. Similarly, Gaudiani simply provided a design for a writing course along with guidelines for teachers who wish to implement it. Neither provided, or claimed to have provided, evidence for the effectiveness of correction; they assumed that it is effective.

Another work sometimes cited as evidence is Kulhavy (1977). This paper is a review of research on feedback, but it is not about feedback in language classes. Kulhavy was concerned primarily with programmed learning in assorted content areas, a type of learning far removed from the process of acquiring literate skills in the use of an L2. There is no basis for generalizing Kulhavy's findings to language learning or, more specifically, to the improvement of accuracy in students' writing.

A number of other studies commonly cited in discussions of correction deal only with oral contexts and therefore have little relevance to the issue of correction in writing classes (e.g., Chaudron, 1977; Herron, 1981; Herron & Tomasello, 1988; Ramirez & Stromquist, 1979; Tomasello & Herron, 1988, 1989). In addi-

tion, this oral research's credibility is weakened by a number of other studies that found oral (or in some cases the combination of oral and written) correction ineffective (EUIS, 1984; Felix, 1981; Holley & King, 1971; Lightbown, 1983a; Plann, 1977).

Fathman and Whalley (1990) studied the process of revision, having one group of ESL students revise their compositions with the benefit of comments from the teacher, while a second group did their revisions without such comments. Not surprisingly, the former group produced better final drafts than the latter. This result, though interesting and valuable, does not address the question: Does grammar correction make students better writers? Fathman and Whalley have shown that students can produce better compositions when teachers help them with those particular compositions. But will those students be better writers in the future because of this help? Nothing in this study suggests a positive answer.

Lalande's (1982) work appears more relevant; it did look at the effects of correction procedures in writing classes and was concerned with effects beyond the particular composition being considered. But it too actually dealt with a question distinct from that being considered here. Lalande's purpose was to test a composition teaching method he developed, involving comprehensive correction by means of a special code, extensive rewriting based on the corrections, and the use of a table showing the type and frequency of the errors committed by each student throughout the course. The experimental group went through this program, but the control group—this is the crucial point—was taught through what Lalande described as a traditional type of writing course, which included comprehensive correction and rewriting based on the corrections. Thus, Lalande did not compare the effects of correction with the effects of noncorrection, but rather with the effects of a different form of correction; as a result, he found his own version to be significantly better than the traditional alternative.

However, "better than" could just as well read "less harmful than". The significant difference between the two groups resulted

more from an increase in the control group's error rate than from a decrease in the experimental group's. The latter, small effect, fell far short of significance. Lalande (1982) considered this small improvement a success, arguing that the students' use of increasingly complex structures through the term would have produced a substantial increase in error rates had it not been balanced by his correction-revision approach. However, the exact opposite may be true: that the students' exposure to the L2 and the additional writing experience they gained through the term would have significantly reduced their error rates had it not been for the harmful effects of the correction techniques. Lalande's study provides no means to resolve the issue, so it is irrelevant to whether or not grammar correction is effective (for additional criticism of Lalande's study, see VanPatten, 1988).

Another study with little or no relevance to writing is Cardelle and Corno's (1981), which found that students who received correction or a combination of correction and praise on their homework surpassed those who received only praise or no feedback at all. But the procedures and tasks used, especially the testing, involved very limited writing processes. Half of the homework consisted of grammar exercises. Moreover, each test was made up of grammar and vocabulary questions (multiple choice and fill-in-the-blank), along with translation problems, involving only very short items. The tests did not include any essays or anything else resembling normal writing. If this experiment proves anything, it proves that students who receive correction on their grammar exercises become better at grammar exercises than students who do not receive correction. This says nothing about the effect of grammar correction on students' writing ability.

A final study claiming to support correction—by Carroll, Swain, and Roberge (1992)—is similar. The authors tried to teach individual learners certain aspects of French morphology, working with cards containing isolated sentences in which the relevant word was highlighted and translated into their L1. The testing was done in the same way. Again, this procedure is far removed

from grammar correction in writing classes. If the study has any significance, it is best seen as evidence against grammar correction, not for it: The authors found correction helpful in the acquisition of lexical items but not grammatical rules.

### *Conclusion*

None of the studies that purportedly support the practice of grammar correction actually do so. A number of other studies have found no value for the practice. Clearly, grammar correction is not effective. Perhaps future research will uncover some effective form of correction, but obviously current approaches have not.

This conclusion fits well with classroom experience. Veteran teachers know there is little direct connection between correction and learning: Often a student will repeat the same mistake over and over again, even after being corrected many times. When this occurs, it is tempting for the teacher to say the student is not attentive or lazy; however, the pervasiveness of the phenomenon, even with successful students, argues against any such explanation. Rather the teacher should conclude that correction simply is not effective.

### Why Grammar Correction Cannot Work

Unfortunately, teachers (and nonteachers) show great reluctance to accept the conclusion that grammar correction does not work. No doubt, all have strong intuitions on the subject and this conclusion clashes with those intuitions. It is difficult to escape the feeling that grammar correction must work, that it has to help students. In the face of these strong intuitions, probably no amount of evidence will convince many teachers, students, or researchers that grammar correction is misguided. Thus, it is also necessary to undermine the intuitions, to show that correction does not have to help and in fact should not be expected to help. That is the business of this section. I will first consider some

theoretical reasons to doubt the value of correction, and then go on to discuss the many practical problems involved.

### *Theoretical Problems*

Research has made it clear that the development of interlanguage involves complex learning processes. This fact poses a problem for the teaching profession, because researchers do not yet understand these processes very well and the understanding they do have is often difficult to apply in the classroom. Unfortunately, as a consequence, teachers can easily lose sight of the process and adopt a simplistic view of learning as essentially the transfer of information from teacher to student. This tendency may go a long way toward explaining the popularity of grammar correction.

Consider what is probably the standard view of correction: Learners find out that they are wrong in regard to a particular grammatical structure and are given the right form (or directions for finding it); they then have correct knowledge about that structure, so they should be able to use it properly in the future, assuming only that they understand and remember the correction. This view has great intuitive appeal; if correct, it provides a compelling argument for grammar correction.

But it is not correct. Its falsity is revealed by a simple observation made by Long (1977; 1991), an observation repeatedly confirmed by research and that any teacher or learner can verify: Language learning rarely, if ever, works the way that this simple view says it does. The acquisition of a grammatical structure is a gradual process, not a sudden discovery as the intuitive view of correction would imply.

One important implication is that favorable intuitions about correction are not to be trusted, because they are based on a false view of learning. Of course, more sophisticated views of correction can be and have been proposed, but the gain in sophistication is accompanied by a loss of intuitive certainty.

A stronger, but no less appropriate, conclusion is that teach-

ers should not expect grammar correction to work. Teaching practices that rely on transfer of knowledge, without any concern for the processes underlying the development of the language system, are not promising. Grammar correction, as almost universally practiced, does exactly that. Of course, it does not follow that research can never develop better versions of grammar correction. For instance, research on developmental sequences eventually could be translated into practices that work in the classroom; but this goal has not been achieved yet, and it is by no means certain that it ever will be.

The problems involved in dealing with underlying processes rather than surface products may be even greater than this discussion suggests. There is some reason to think that syntactic, morphological, and lexical knowledge are acquired in different manners (Schwartz, 1993). If this is the case, then probably no single form of correction can be effective for all three. Teachers who wish to correct their students' errors may have to come up with two or three effective methods rather than just one.

On the other hand, these considerations might suggest that lexical and morphological knowledge are amenable to correction, even if syntax is not. It makes no sense to think of syntax as a collection of discrete items that students can learn one by one, so the metaphor of information-transfer is clearly inappropriate here. But it might be more reasonable to see words and affixes this way; so perhaps teachers can constructively transfer lexical and morphological information to learners by means of correction.

However, the research reviewed in the preceding section argues against any such conclusion. In those studies, inflectional morphology (verb forms especially) was a standard target for correction, as were lexical errors. In neither case were any benefits found. Thus, although lexical and morphological knowledge might in theory be more amenable to correction than syntactic knowledge, this amenability does not seem to make any practical difference.

This failure may be due simply to practical problems (see below), but it might be predicted on theoretical grounds as well.

The lexicon is much more than a list of words; the meaning, form, and use of each word depend very much on its relationships to other words and to other portions of the language system, as well as to nonlinguistic cognitive systems. The same can be said for morphological knowledge (which is, of course, intimately connected with the lexicon). Thus, the acquisition of lexical and morphological knowledge involves subtle learning processes. (Some idea of the complexity involved can be obtained from Clark, 1993.) To be effective, correction must address these processes, not just pass information from teacher to learner.

I will consider now two more specific problems encountered by grammar correction, both stemming from the fact that it deals only with surface manifestations of grammar, ignoring the processes by which the underlying system develops.

#### *Problems Involving Order of Acquisition*

Research described above shows that much of L2 grammatical learning follows natural orders, and that problems can arise when instructional sequences are inconsistent with those orders. These results should not be surprising. Learning consists of the gradual development of a system, based in large part on complex learning processes, so one should expect regular patterns of development, independent of what occurs in the classroom.

The research on developmental sequences has important implications for the practice of grammar correction. When students are corrected on a point for which they are not yet ready, the correction is not likely to have much value. So a teacher who wants to help students through grammar correction will often have to select corrections on the basis of students' current stage of development with respect to individual aspects of grammar.

This is not how grammar correction is normally done in L2 writing classes. Very few, if any, writing teachers ever consider the issue of developmental sequences. Moreover, correction cannot be based on these sequences, simply because researchers do not yet adequately understand them. Research on English

learning is sufficient to tell us that such sequences exist, but as a general guide for teachers it is hopelessly inadequate. And the same situation holds, a fortiori, for all other target languages, with the possible exception of German (e.g., Pienemann, 1989). This description may well understate the difficulties, because there is some evidence that different groups of learners may differ on the details of the sequences they follow (Meisel, Clahsen, & Pienemann, 1981; Nicholas, 1985).

Thus, the existence of developmental sequences, and teachers' limited ability to deal with them, is one important factor in the ineffectiveness of grammar correction. Conceivably, the situation will change, with increased understanding of the sequences, but this possibility does not alter the fact that for now no one can give effective feedback on grammar.

Teachers might try to get around these problems by correcting all errors: Some of them will no doubt be errors for which the learner is ready. The research considered above, however, shows that comprehensive correction does not work. This should not surprise, given the enormous amount of distraction learners receive from corrections for which they are not ready, along with the problems that this technique imposes on teachers (see below). Thus, correction that respects natural sequences of acquisition is not realistic now and is not likely to become so soon.

### *The Problem of Pseudolearning*

Interlanguage develops through subtle, poorly understood processes. It would be surprising if all types of teaching/learning were consistent with them. Rather, some will fail to affect the underlying, developing system, instead producing only a superficial and possibly transient form of knowledge, with little value for actual use of the language. Such learning would be better described as *pseudolearning*. If the knowledge acquired through grammar correction is, or can be, pseudoknowledge, then teachers have additional reason to doubt the technique's value.

The view that not all learning is equal is common among SLA

researchers. Ellis (1988) described *modelled* learning, which has little connection to more useful *communicative* learning. Later, Ellis (1993, 1994) became concerned with the distinction between *implicit* and *explicit* knowledge of grammar, the main value of the latter being that it can (in his theory) facilitate acquisition of the former, which is the important type. Lightbown (1985) talked about *pseudoacquisition*—apparent success that turns out to be only apparent. McLaughlin (1990) was concerned about new knowledge being integrated into the learner's language system; if it does not get integrated then the learning is not real learning. Long (1977) expressed concern as to whether a given instance of learning would help the learner in general, or only in monitoring contexts. And of course there is the most frequently cited view of this sort: Krashen's (1987) concept of *learning*, as opposed to *acquisition*, the latter being what really counts in second language acquisition. (Krashen also has taken learning very seriously, but it actually plays a small role in his theory.) The same distinction was made by Schwartz (1986), who used the terms *learned linguistic knowledge* and *competence*. Felix (1987) also made a distinction of this sort, between the workings of a specifically linguistic learning system and a nonspecific and relatively inefficient problem solver. More generally, there is widespread acceptance of the distinction between knowledge of language and knowledge about language, the latter being referred to as *metalinguistic knowledge*. There is no consensus as to its exact nature, but its relatively limited value for learners is clear.

The diversity of theoretical views represented by this group of researchers makes it clear that the concern is pervasive. This concern is supported by research that showed learners had acquired good intellectual knowledge of the target language but had no ability to use this knowledge (e.g., Kadia, 1988; Schumann, 1978a, 1978b; Terrell, Baycroft, & Perrone, 1987). In related work, follow-up testing and observation showed that knowledge which students had apparently acquired actually disappeared in a matter of months, probably indicating that the teaching had produced nothing more than pseudolearning (Harley, 1989;

Lightbown, 1983b, 1985, 1987; Lightbown, Spada, & Wallace, 1980; Pienemann, 1989; Weinert, 1987; White, 1991). More recently, Zobl (1995) has provided strong arguments for Krashen's (1987) learning versus acquisition distinction, based on a variety of research findings. Thus, in discussing the effects of teaching practices, researchers must be concerned not only with whether learning has resulted, but also with what kind of learning: If it is simply an instance of pseudolearning, then the instruction has not been successful.

Consider grammar correction in this light. If the practice has an effect on the learner, but that effect is simply to produce pseudolearning, then it has little or no value. And there is no reason to believe that it is producing anything other than pseudolearning (if it has any effect at all). Any claim to the contrary would be simply a statement of faith, and a rather dubious one given the research evidence above and the general characteristics of correction: It is typically done in terms of isolated points and without reference either to the processes by which the linguistic system develops or to the learner's current developmental stage. In other words, it is a superficial form of teaching/learning.

On the other hand, even if the knowledge acquired through grammar correction is a form of pseudolearning, it might still be useful for editing. But this value is probably quite limited (even if the new knowledge is not quickly forgotten, as isolated bits of information frequently are). Second language editing actually depends far more on intuitions of well-formedness, coming from the unconscious language system, than on metalinguistic knowledge of points of grammar. Evidence comes from studies showing a dissociation between the ability to correct an error and the ability to state a rule that could guide the correction. Probably the most interesting of these studies is Green and Hecht's (1992), in which they showed 300 German EFL students nine English grammar errors commonly committed by German students. They asked the students to correct the errors and to give a rule in each case. They found that learners who could not state a rule or who

stated a wrong rule were nonetheless able to make a proper correction in most cases. In addition, relatively advanced students were far better than native speakers of English when it came to stating valid rules, although not in making corrections. It is not clear just how small a role explicit rules played in this study; they may well have had no effect at all, though this cannot be demonstrated. What is clear is that learners' error correction was based primarily (if not entirely) on their intuitions rather than on explicit knowledge of correct and incorrect forms.

Gass (1983) also concluded that the ability to correct errors is distinct from the ability to state the rules underlying the corrections. Seliger (1979) observed a similar dissociation between the ability to correctly use a rule (*a* vs. *an*) and metalinguistic awareness of that rule. Last, Sorace (1985) also found that students' ability to identify errors and make corrections greatly exceeded their ability to state the rules required for the corrections. Thus, the type of knowledge that correction might well produce plays at best a secondary role in learners' editing of their writing.

The limits of this sort of knowledge for editing are also evident in comments from the students interviewed by Cohen and Robbins (1976). In many cases, these students were either unable or unwilling to adopt the grammar corrections they received. Sometimes they fully understood the correction but still could not believe that what they had written was wrong; it still sounded right to them. In other cases, they would agree with the correction but then offer some reason why they were not able to follow it. At still other times they stated that they knew the right structure to use but never thought of it while writing or editing their work. In such comments, students favor their intuitions over the things they are told by writing teachers.

Actually, it is probably not even necessary to cite research findings on this question. Most teachers who have experience with grammar correction have probably observed this type of reaction from their students. When told not to write something that sounds right to them, or to write something that does not

sound right to them, students do not eagerly throw away their intuitions and do things the teacher's way. Many students either go on writing as they did before the correction or simply avoid using constructions in which the problem could arise. Those who do follow the teacher's advice may well cease to do so as soon as they stop writing for that particular teacher, possibly as a conscious decision or possibly because the advice is forgotten once that teacher is no longer there to remind them.

Thus, advice that does not accord with the student's intuitions is not likely to be followed, at least not in the long term. So one should not expect corrections to have much effect on students' self-editing in the long term, and possibly not even in the short term.

More generally, the problem of pseudolearning, along with problems stemming from the existence of developmental sequences, provides good reason to doubt the value of grammar correction. Its general failure to deal with interlanguage as a system that develops by its own processes makes its prospects very dim. Although it is conceivable that the situation will eventually change as the result of future research, we should not expect correction to be helpful, at least not as it is currently practiced.

### *Practical Problems*

The same conclusion—that correction is ineffective—can be reached on the basis of purely practical considerations. For a particular instance of grammar correction to be effective, a large number of requirements must be met; if any one of them is left unsatisfied, it will render the correction ineffective. There are many requirements for success and many things that can go wrong during the process (see Woods, 1989).

First, the teacher must realize that a mistake has been made. The well-known problems involved in proof-reading show that this step cannot be taken for granted. Indeed, Cohen and Cavalcanti (1990), in their study of feedback in L2 writing classes, observed

many cases in which teachers failed to notice errors. And for teachers who are not native speakers of the target language, obvious additional problems arise.

If teachers do recognize an error, they still may not have a good understanding of the correct use—questions regarding grammar can be very difficult, even for experts, and someone who speaks or writes English well does not necessarily understand the principles involved. Indeed, the grammar explanations given to students (even if teachers are experts in grammar) often have only a limited relation to the actual grammar of English, simply because no one knows what that grammar really looks like. This may seem like an overstatement, but it is, in fact, rather trivial. The best understanding of grammar now available is provided by current linguistic theories. But even the best theories are extremely incomplete, are constantly changing (even in fundamental ways), and are in many respects inconsistent with one another. It follows that the grammar explanations given to students have only a limited and uncertain connection to actual English grammar. This point applies a fortiori to other target languages, because no other language has been studied nearly as extensively as English in regard to its grammar.

Thus, teachers may well know that an error has occurred but not know exactly why it is an error. If they do understand it well, they might still be unable to give a good explanation; problems that need explaining are often very complex. Even if capable of explaining the problem well, they still might fail to do so; busy teachers grading large numbers of written assignments have serious problems with time and patience, problems that can easily affect the quality of their comments. Cohen and Robbins (1976) and Zamel (1985), in fact, found serious problems regarding the quality of teachers' written responses to L2 compositions.

Even if teachers express the principles clearly, students may well fail to understand the explanation. This failure could occur for a number of reasons, one being that the explanation "fails to connect," because the teacher does not know why the student made this particular mistake, what was going on in the student's

head that led to the error. And a learner who understands a comment—well enough even to rewrite the composition correctly—may not grasp the general principle involved and therefore may repeat the error later in other contexts (Leki, 1990).

These theoretical possibilities are supported by evidence, cited by Knoblauch and Brannon (1981), Cohen (1987), Moxléy (1989), and Leki (1990), that even L1 students often do not understand the corrections they receive. The work of Hayes and Daiker (1984) is especially interesting, in that it involved corrections by a teacher who was reported to be doing everything right, according to current theory. Thus problems in understanding corrections appear general for L1 classes. And one would expect them to be no less general and no less serious for L2 students.

And if students do understand, they are likely to forget the new knowledge rather quickly, especially if the explanation is complex and especially if this is only one of many errors for which they are receiving correction. This problem is compounded by the fact that, according to research findings, L2 teachers are generally not consistent or systematic in their corrections (Cohen & Robbins, 1976; Zamel, 1985). This should not be surprising; it is extremely difficult for a busy teacher to be consistent and systematic, especially if dealing with many students and with many different mistakes. This inconsistency naturally makes it harder for students to understand and remember corrections.

And there is yet another way in which the correction process can fail. Even if the teacher does give a good explanation and the students can deal with it,<sup>3</sup> they may not be sufficiently motivated to do so; dealing with the teacher's corrections is not fun and is often not easy either, especially if there are many of them. In fact, some studies cited by Cohen (1987) concluded that L1 students often pay no attention to corrections. And, even if sufficiently motivated to look at and figure out the corrections, they may not be motivated enough to think about them in future writing.

Cohen's (1987) survey of mixed L1/L2 students found that, when they received corrections, students generally did nothing more than make a mental note of them. Moreover, students who

rewrote their compositions (and they did so only when required to) generally did not make use of the corrections in their rewriting, even when they had no trouble understanding them. Radecki and Swales (1988) also found that ESL students were not particularly serious in the way they dealt with corrections and more often than not were reluctant to do any rewriting, many seeing it as a form of punishment. Similar results were obtained by Cohen and Cavalcanti (1990) and by Saito (1994), though in the latter case they were more variable.<sup>4</sup>

In addition, students who do try to write in accordance with the corrections they receive may not maintain their motivation to do so for long, as mentioned above. Once they have left that particular teacher's class and are writing for a different teacher with different concerns or different emphases, they may well abandon the original advice.

One might think that at least some of these problems could be greatly reduced if teachers selected a few important errors and consistently corrected them over a long period, ignoring other, less important errors. In that way, students would not be so overburdened and could more easily pay attention to the corrections they received and use them in the future. Besides, it would not be as difficult for teachers to be consistent in their responses. In addition, this approach would remove much of the unpleasantness associated with comprehensive correction, making classes more pleasant (or at least less unpleasant) both for students, who would not have to confront so many criticisms, and for teachers, who would not be so overwhelmed with unpleasant work. Not surprisingly then, selective correction seems to be the generally accepted approach these days (e.g., Bartram & Walton, 1991; Burt & Kiparsky, 1972; Byrne, 1988; Celce-Murcia & Hilles, 1988; Edge, 1989; Mings, 1993; Raimes, 1983).

However, the evidence is not encouraging on this matter. First, various studies on L1 writing, reviewed in Knoblauch and Brannon (1981), and in Hillocks (1986), found that it makes no difference whether corrections are comprehensive or selective. For L2, Hendrickson (1981) failed to find any difference between

comprehensive correction and correction restricted to communicative errors. Thus, the evidence suggests that limiting the number of corrections is not a solution.

This result should be expected for a number of reasons. First, selective correction must be consistent with learners' developmental stages if it is to be effective, but teachers currently do not base corrections on these stages, and limited understanding of them makes it impossible to do so, as described above. Even if the research were sufficiently advanced, enormous problems would occur. Teachers would have to attain and maintain a high level of knowledge about developmental sequences, and they would have to carefully monitor (and probably test) each individual student in regard to each of the grammar points in which they were interested. This process would add a large burden to teachers who already have little time to spare.

Second, as mentioned previously, it is often difficult for teachers to be consistent. This is especially true when they are dealing with large numbers of students, a disturbingly common situation. Problems of time and patience can easily get in the way, as can proof-reading problems: Busy readers are especially prone to overlook mistakes (Cohen & Cavalcanti, 1990, found many such cases). Furthermore, to consistently correct a given type of error, a teacher must be able to consistently identify errors of that type. But errors do not always fit neatly into one category or another, so the teacher often has the problem of deciding whether or not a particular error is of the type to be corrected—a far from trivial problem, in view of the extreme complexity of grammar.

Thus, for selective correction to be consistent (an important factor in its effectiveness), the teacher must be able to find all the relevant errors, correctly identify them as the type chosen to correct, and avoid being overly inclusive (treating irrelevant errors as if they were the chosen type). There is good reason to doubt teachers' ability to do these things, so one should expect the average teacher to be inconsistent, an expectation borne out by the research cited above.

It can be concluded that one should not expect learners to

benefit from grammar correction. Even if it could work in principle (which is doubtful), it is too inefficient to be of much use. So in at least the overwhelming majority of cases correction amounts to an unpleasant waste of time.

### Grammar Correction Has Harmful Effects

The preceding discussion brings out some reasons why correction is not only unhelpful but even counterproductive. First, learning is most successful when it involves only a limited amount of stress, when students are relaxed and confident and enjoying their learning; but the use of correction encourages exactly the opposite condition.<sup>5</sup> People do not like to be told that they are wrong, especially to be told repeatedly that they are constantly making mistakes. Even students who believe that correction is a necessary part of learning do not enjoy the sight of red ink all over their writing and probably find the experience extremely discouraging.

This effect occurred repeatedly in a number of the L1 studies reviewed by Knoblauch and Brannon (1981) and by Hillocks (1986): Students who did not receive correction had a more positive attitude toward writing than those who did. The uncorrected students were not better writers as a result, but they wrote more, presumably because of their better attitude. If this tendency continued over the long term, it might well result in eventual superiority of the uncorrected students. One should not neglect the importance of attitude in itself. All else being equal, a class students enjoy is preferable to one they do not enjoy, and a good attitude toward writing is preferable to a bad one.

In L2 research, three studies mentioned earlier found grammar correction harmful rather than just ineffective. Semke (1984) found that uncorrected students wrote more and were superior on a cloze test. She also cited evidence (from Rinderer) that correction harms ESL students' motivation. Kepner (1991) and Sheppard (1992) found that grammar correction significantly harmed the complexity of students' writing; Sheppard's uncorrected students also showed a superior grasp of sentence boundaries.

The probable source of these problems is, again, the inherent unpleasantness of correction. Students shorten and simplify their writing in order to avoid corrections; they do not learn as well as uncorrected students because they have developed a less favorable attitude toward learning. On the surface, that students find correction unpleasant would seem to conflict with the frequent evidence that they want to be corrected. But there is nothing odd about people wanting things they find unpleasant; the only requirement is that they believe those things are helpful. Students obviously do think correction is helpful—and even necessary—so one should not be surprised that they want it in spite of its unpleasantness. In this context, it is also not surprising that students who believe in correction are still reluctant to work in any serious way with the corrections they receive, as noted previously.

A further reason to think that correction is counterproductive is the time factor. Students who take correction seriously will have to spend much time reading, thinking about, and correcting their mistakes, time that could be much better spent on other, more productive learning activities. (Of course, this is only relevant for those students who are serious about dealing with their errors; for those who ignore corrections, the point is moot.) In L1 work, Hayes and Daiker (1984) found that students who did not immediately understand a written comment (a frequent occurrence) often spent a great deal of time trying to figure it out, frequently ending with a wrong conclusion that they incorporated in their subsequent writing. In these cases, it would be an understatement to say that paying attention to feedback was a waste of time.

The time problem is even greater—in fact, much greater—for teachers. In a class with many students and many writing assignments, correction of grammar errors can absorb an enormous amount of a teacher's time, time that could be spent more productively (and perhaps more pleasantly) on other things.

Thus, the time problem causes the attention of teachers and learners to be diverted from other aspects of writing, such as

organization and logical development of arguments. Time spent on grammar correction is time not spent on these more important matters. This effect can be seen in a finding from Cohen's (1987) survey, that most students in writing classes had received a great deal of correction on grammar and mechanics, but relatively little on organization and content, even in advanced classes. It should not be surprising that so little attention is given to high-level aspects, in view of the enormous amount of time and effort presumably going into low-level feedback in these classes.

On the question of relative importance, Santos (1988) found that content-area instructors in the U.S. tend to be reasonably tolerant of grammatical errors made by nonnatives, and much less tolerant of problems with content. Santos hence recommended that language instructors focus on skills that most directly affect the content of writing. Leki's (1991) finding that ESL students recognize this situation is also interesting. Among the students she surveyed, two thirds said that error-free writing was not important to their content-area instructors (though it was to their English teachers and to them). Thus, concern with grammar correction is harmful if it diverts class resources from more appropriate tasks.

### There Is No Reason to Correct Grammar Errors

I have argued extensively that grammar correction is not helpful and can be harmful. This discussion contained little that has not already been known for some time; yet nearly everyone who writes on the subject continues to recommend grammar correction in one form or another. Why? Any answer is necessarily speculative, but a few good possibilities can be identified, most of them mentioned in the literature a number of times.

However, perhaps the most important reason for the continued popularity of grammar correction is one that has never received any explicit discussion. This is what one could call the "burden of proof assumption."<sup>6</sup> Teachers and researchers commonly seem to believe that as long as there is any possibility,

however remote, that grammar correction could sometimes help learners, they should continue using it (and using it generally, with all types of students in all types of classes). Of course, no amount of research could ever remove all possible ambiguity about the ineffectiveness of a teaching practice, so such a view makes grammar correction immune to any challenge.

This view's logic is never explicit, but is in all likelihood a product of the dubious intuition that correction simply must be effective. The strength and pervasiveness of this intuition in turn results from the lingering influence of the information-transfer view of learning, discussed above. Most people involved in language teaching are aware, at least in an intellectual sense, that learning is actually a much more subtle and complex process than that. But everyday thinking has difficulty escaping the belief that what teachers tell students and what the students learn are directly connected (or should be). Tradition no doubt plays a role as well; there is a natural reluctance to abandon a practice that has always been a mainstay of teaching. In any case, there does not seem to be any genuine argument for correction here.

In addition to the burden of proof assumption, the literature reveals several arguments for continuing the practice of grammar correction. I will consider each of them in turn.

Hendrickson (1978), dealing with the question of whether or not students should be corrected, based his affirmative answer partly on the argument that learners often cannot identify their own mistakes and therefore need a more knowledgeable person to point them out. Herron (1981) made the same argument for oral contexts. This is no doubt an accurate statement about students' limitations, but as an argument for correction it simply begs the question, making the groundless (and I would argue, false) assumption that students will benefit by having their errors pointed out to them.

Another common argument for grammar correction involves claims about the dangers of fossilization. It assumes that students who are not corrected eventually become stuck at a low level of grammatical skill, whereas those who do receive correction can

avoid this problem. Calvé (1992) displayed this perspective nicely in the title of his article, "To Correct or Not to Correct, That Is Not the Question."<sup>7</sup> His logic is that students will develop fossilized bad grammar if they do not receive correction, so there is no need to ask whether one should or should not correct grammar errors; the only questions are about the details of the correction process.

This claim has some intuitive appeal (comparable to that of grammar correction in general), but little recommends it besides this dubious intuition. The paper usually cited as evidence is by Higgs and Clifford (1982), who made strong claims but provided little support for them. They did not describe any specific studies that support their thesis, or give reference to any; nor did they offer any numbers or any analysis. Instead they gave their considered opinion as two veterans of the language teaching profession, based on their own experience. This opinion should be noted and can serve as a stimulus for research, but as the basis for arguments on teaching practices it is hopelessly inadequate (for additional criticism of Higgs & Clifford, see VanPatten, 1988). There is little or no reason to believe that a lack of concern with grammar will lead to fossilization. The claim that grammar correction can prevent fossilization is particularly dubious in view of the evidence presented above that correction is ineffective in general.

There are also writers whose support for grammar correction is based on a questionable assessment of the research literature, Omaggio (1986) being the prime example. She offered a lengthy discussion of work related to correction and concluded (in part) that feedback helps in the development of grammatical ability. But her accompanying discussion does not justify this conclusion. She included some unsupported claims about fossilization (based in part on Higgs & Clifford, 1982), some theoretical views on the development of interlanguage, extensive comments on the way native speakers react to errors, her evaluation of various types of correction, and brief mentions of Lalande (1982), Higgs (1979), Kulhavy (1977), and Hendrickson (1980)—none of whom offer any evidence that language learners benefit from grammar correction (or any other type of feedback).

Perhaps the most interesting—and most disturbing—argument found in the literature is that because students want correction and believe it is helpful, we should continue the practice (Hendrickson, 1978; Leki, 1991; Walz, 1982). Abundant evidence shows that students believe in correction (Hedgcock & Lefkowitz, 1994; Hendrickson, 1978; Leki, 1991; Radecki & Swales, 1988; Saito, 1994; and for oral contexts Cathcart & Olsen, 1976; Chenoweth, Day, Chun, & Luppescu, 1983; Young, 1990), but this does not mean that teachers should give it to them. The obligation teachers have to students is not to use whatever form of instruction the students think is best, but rather to help them learn.<sup>8</sup> And teachers can best do this by abandoning grammar correction.

When students hold a demonstrably false belief about learning, the proper response is not to encourage that belief, but to show them that it is false. In this case, that will mean educating them on the nature of the learning process, on the nonvalue of correction, and on correction's harmful effects. Changing students' attitudes is not likely to be a trivial task. Most students come to classes with strong intuitions about the value of correction. For most students who have taken previous language courses, these intuitions have been reinforced by consistent use of correction in those courses, creating additional difficulties for teachers at the higher level. Thus, some transitional problems are likely.

But one easily overestimates the significance of such problems. In the various studies in which some students were corrected and others were not, the latter did not exhibit any harmful effects on learning or motivation. On the contrary, in every case in which differences were found, they favored the uncorrected learners. If these students were upset about the absence of correction, they apparently got over it quickly and went on to make good progress. Thus, the transitional problems are by no means unmanageable. They certainly cannot justify the continuation of a counterproductive practice.

The issue raised by students' beliefs is not whether teachers should continue to use grammar correction, but how they best help learners adjust to its absence. Some writers have offered

suggestions on this subject (Bartram & Walton, 1991; Leki, 1991), and further work could prove useful. But the decision to abandon grammar correction is in no way dependent on such work.

### Conclusion: Grammar Correction Should Be Abandoned

I began with a presentation of the extensive research on grammar correction, concluding that it provides a great deal of evidence against correction's effectiveness and no evidence for it. I then argued that this is exactly what to expect, on both theoretical and practical grounds. I then went on to make the case for a stronger conclusion: that correction is harmful rather than simply ineffective. Finally, I argued that no valid reasons have been offered for continuing the practice in spite of these overwhelming problems. The conclusion is clear: Grammar correction should be abandoned.

This leaves the question of what teachers should do in writing classes. The answer, implicit in the preceding discussion, is straightforward: anything except grammar correction. My arguments have no implications for the teaching of other aspects of writing, except that abandoning grammar correction will allow teachers to devote more time and effort to them. So the recommendation to drop grammar correction should not cause any problems for teachers trying to decide what to do in their classes.

What about accuracy? If teachers cannot rely on grammar correction, how can students improve their grammar? Probably accuracy is improved through extensive experience with the target language—experience in reading and writing. But this point (whether or not one accepts it) is really not important—the question of whether or not there are techniques that can improve accuracy is simply not relevant to the fate of grammar correction. Because correction does not help students' accuracy, and may well damage it, simply abandoning correction will not have harmful effects on accuracy (or anything else) and might improve it. In other words, teachers can help students' accuracy at least as much by doing nothing as by correcting their grammar; and by doing

nothing teachers can avoid the harmful effects discussed above. So the alternative to correcting grammar is straightforward: Do not correct grammar.

Finally, it is appropriate to end with a small note of caution. The thesis that I have argued is strong, because present evidence and present understanding of the learning process clearly and unambiguously favor such a view. However, current research and theory inevitably have their limits, so one cannot overlook the possibility that future developments will dictate a weakening of my thesis. Future research on learner variables might show that certain subgroups of learners can benefit from correction under certain circumstances. Future research on developmental sequences could conceivably furnish the knowledge to provide truly beneficial feedback. But for now, at least, these ideas are speculations. Thus, for the foreseeable future my conclusion stands: Grammar correction has no place in writing classes and should be abandoned.

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### Notes

<sup>1</sup>Possibly these students' proficiency level—they were in the third quarter of a university class—was too low to make self-correction feasible.

<sup>2</sup>A possible approach would be to look at certain superficial characteristics of learners—their ability to understand corrections and their willingness to apply them. But these characteristics are very far from sufficient for the success of correction—see the following section.

<sup>3</sup>To this point, the argument has assumed that we are dealing with direct correction, in which the teacher tells the learner exactly what the error is and/or provides a correct form. Similar comments apply to indirect correction, in which the teacher points out the location of the error and possibly its type, and learners are then expected to figure things out for themselves. In this case, the problems involved in the teacher understanding and explaining errors are greatly weakened (though they still have to find them and possibly identify their types), but the burden of understanding is shifted entirely to the learner. Given that students are much less able to understand grammar points, this change is not likely to increase the chances of success.

<sup>4</sup>Ferris (1995) found students very serious about learning from feedback, but the relevance of this result for grammar correction is unclear. Students

thought that grammar was the main focus of correction on both initial and final drafts, but it was supposed to be corrected only on final drafts, and at least one of the teachers involved was convinced that she had done it that way. Because it was comments on initial drafts that students took most seriously, these results are difficult to interpret.

<sup>5</sup>Some authors (see Brown, 1987; Scovel, 1978/1991) have argued that correction can sometimes lead to *facilitative anxiety*, which motivates students to achieve. More recent work by MacIntyre and Gardner (1989, 1994) and Gardner and MacIntyre (1993b) has separated language learning anxiety from other types of anxiety and found the former has unambiguously negative effects on learning. Particularly interesting is Gardner and MacIntyre's (1993a) finding of a very strong negative correlation between language anxiety and foreign language writing proficiency. Additionally, students motivated by anxiety are more likely to abandon language learning once they have finished formal instruction than are students with more positive motivation.

<sup>6</sup>The closest anyone has come to an explicit statement of this assumption is Hendrickson's (1980) recommendation that we use certain correction techniques while waiting for evidence on whether or not anything works.

<sup>7</sup>"Corriger ou ne pas corriger, là n'est pas la question."

<sup>8</sup>This is not to deny the value of learner-centered instruction, but rather to recognize its natural boundaries: Students entering language or writing classes do not always know what is best for them.

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